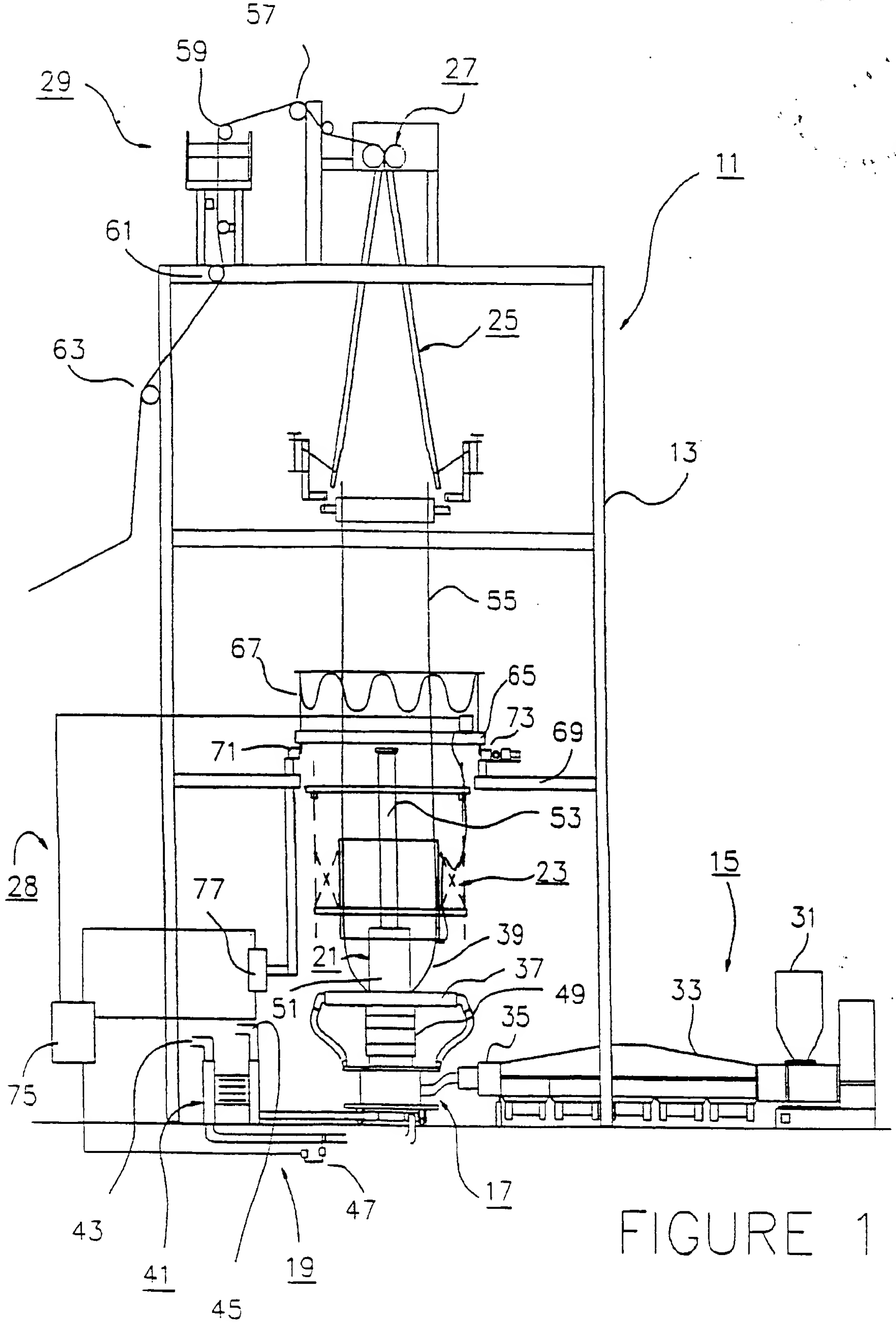
#3



57
59
29
27
11
61
25
63
13
55
67
65
73
69
71
53
28
23
77
15
31
39
21
37
51
49
33
35
75
43
41
45
19
47
17

FIGURE 1

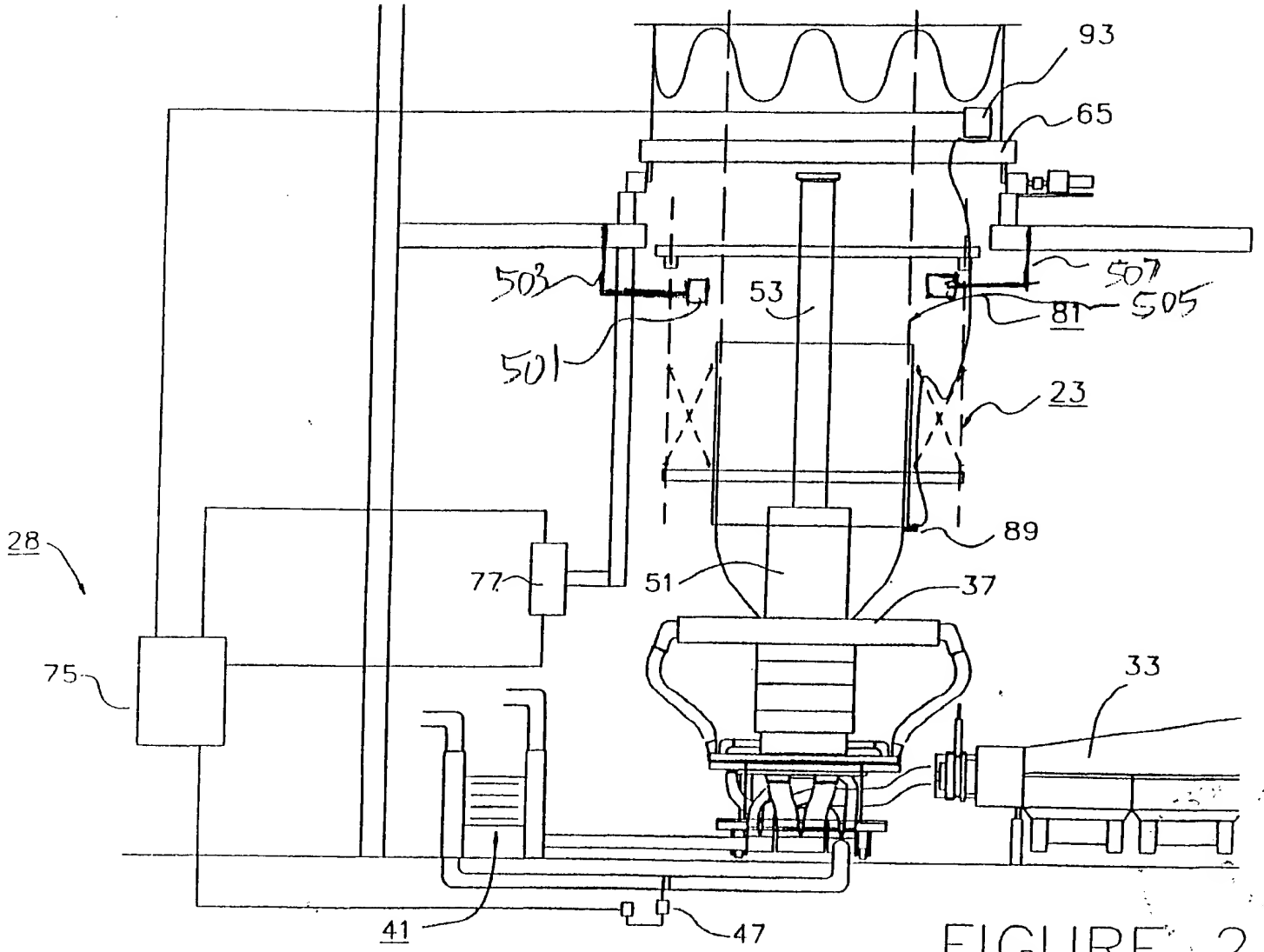


FIGURE 2

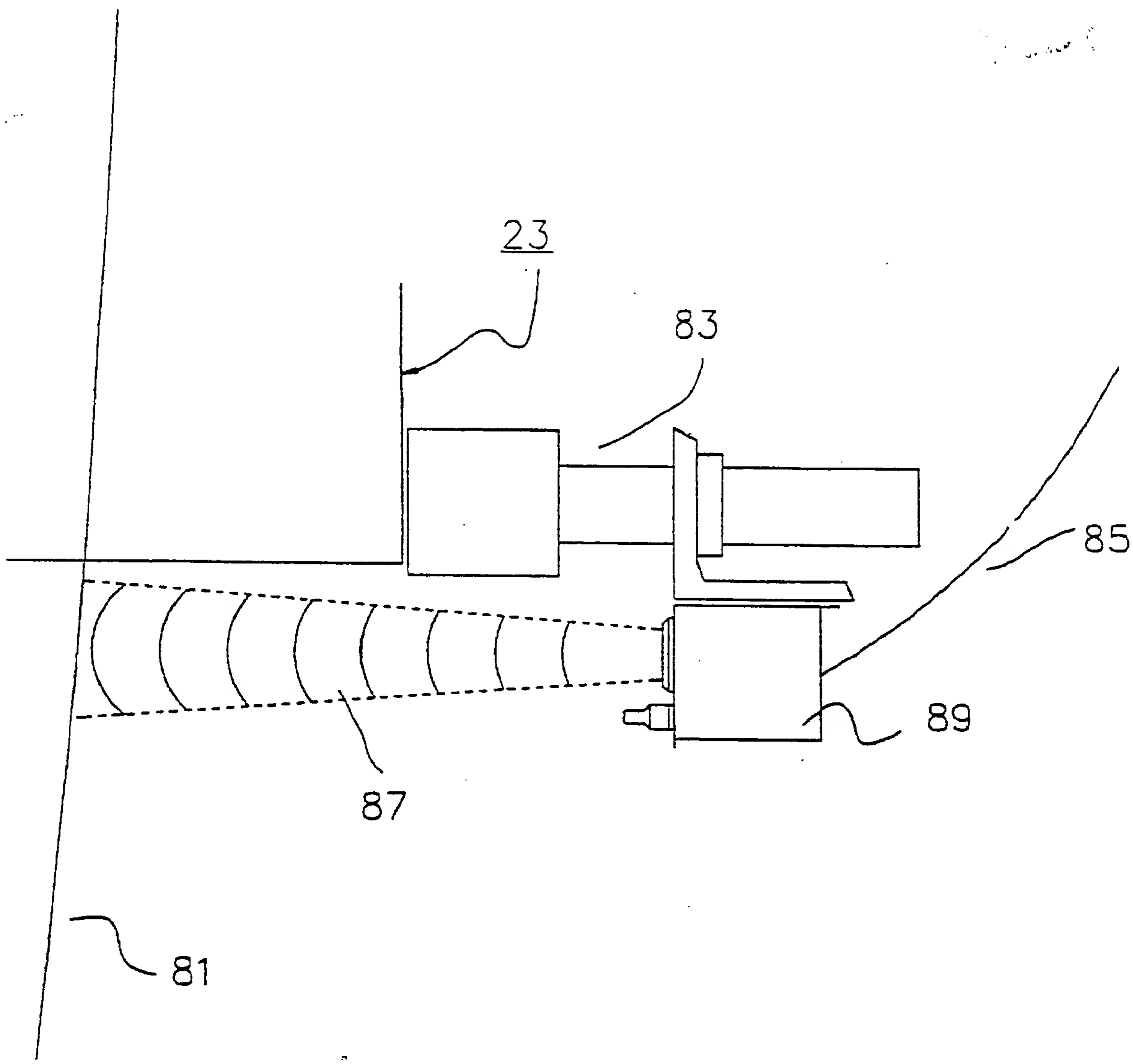


FIGURE 3

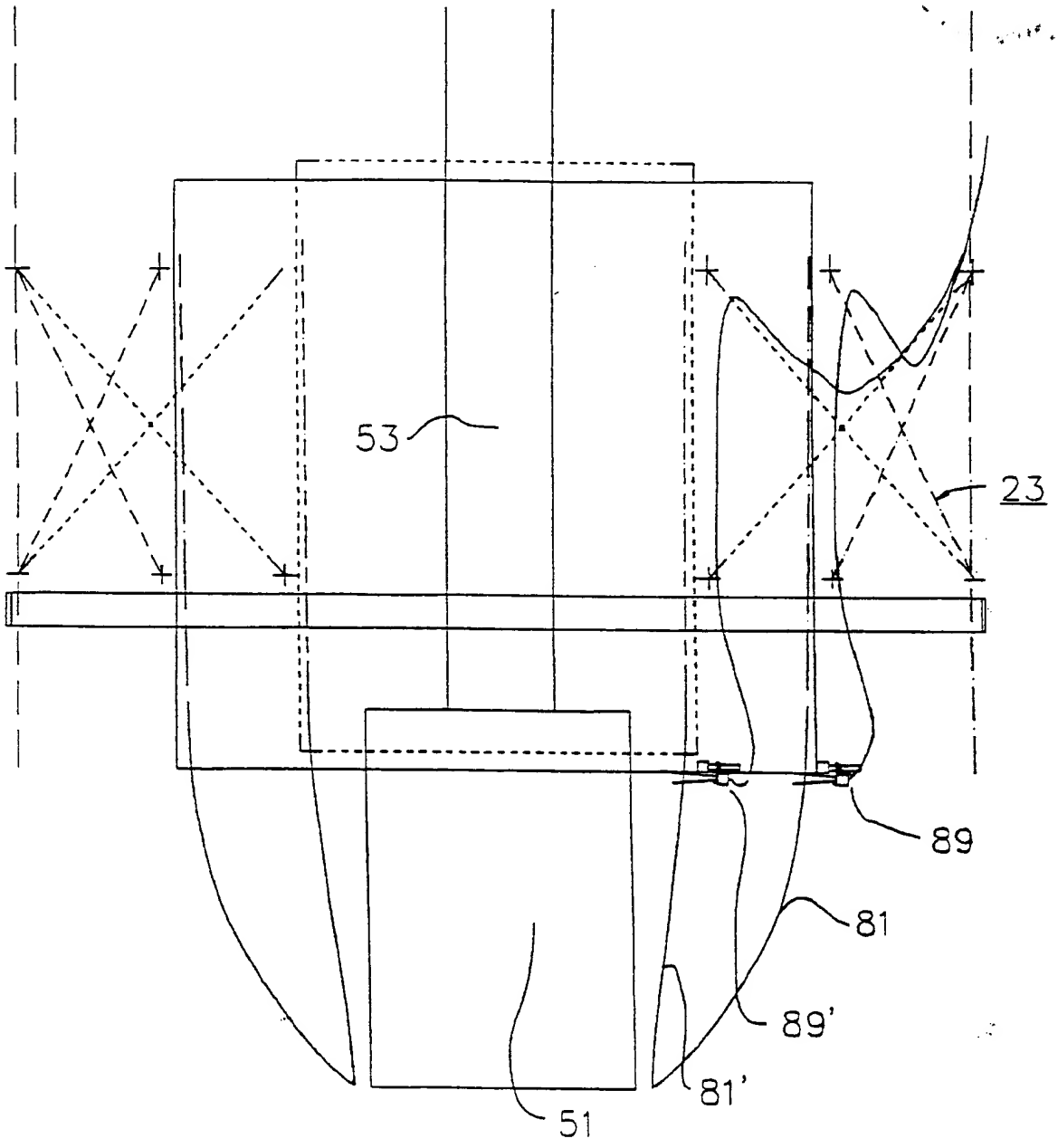


FIGURE 4

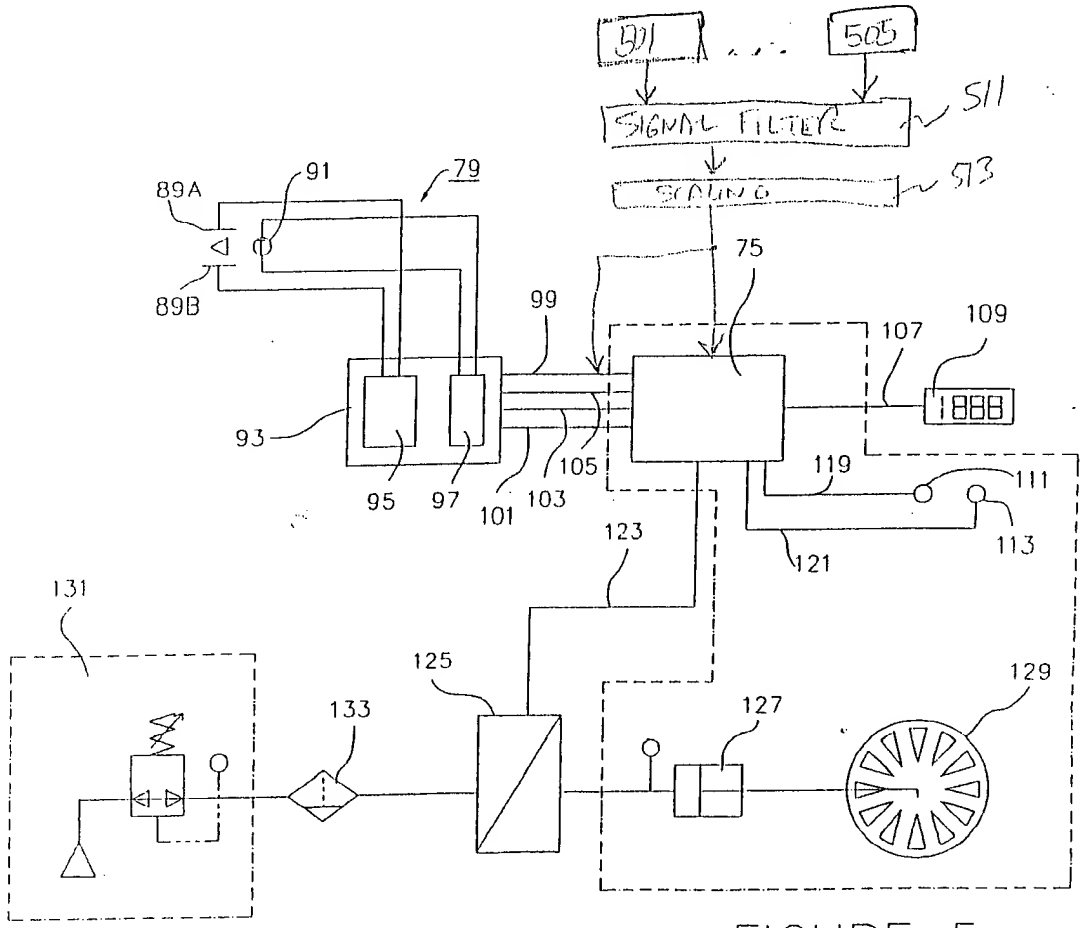


FIGURE 5

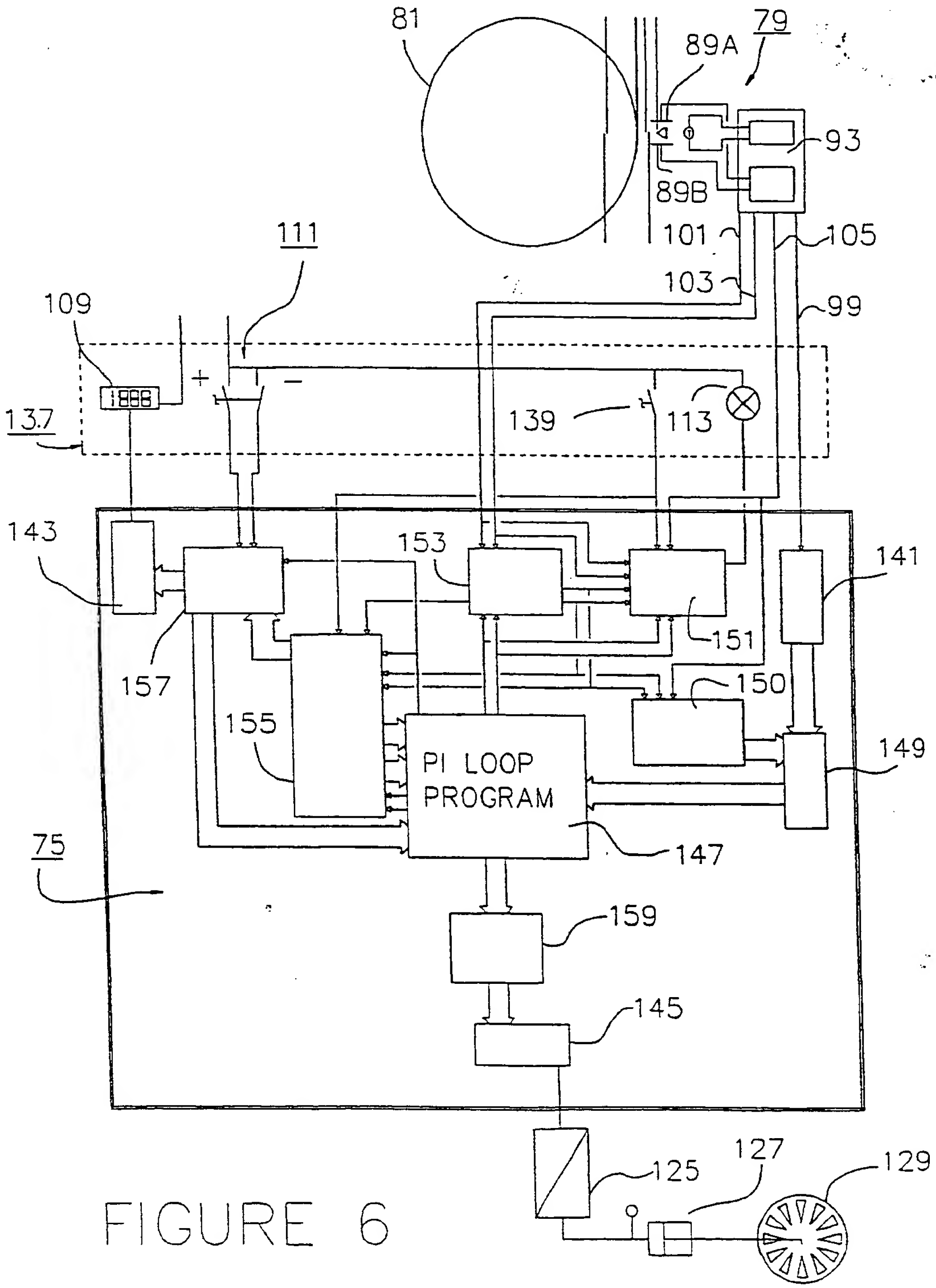

81
79
89A
93
89B
101
105
111
103
99
109
1888
+
−
137
139
113
143
153
141
151
157
150
155
149
PI LOOP
PROGRAM
75
147
159
145
125
127
129

FIGURE 6

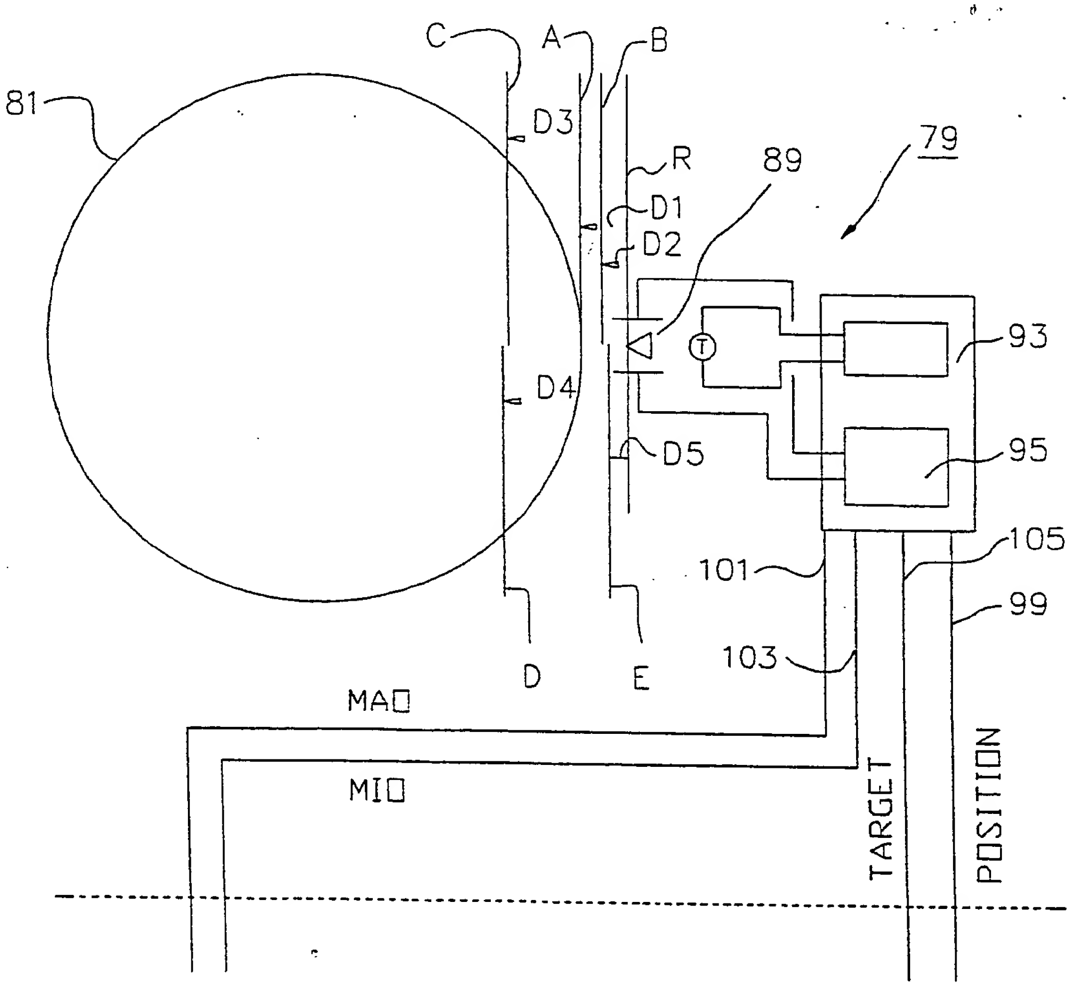


FIGURE 7A

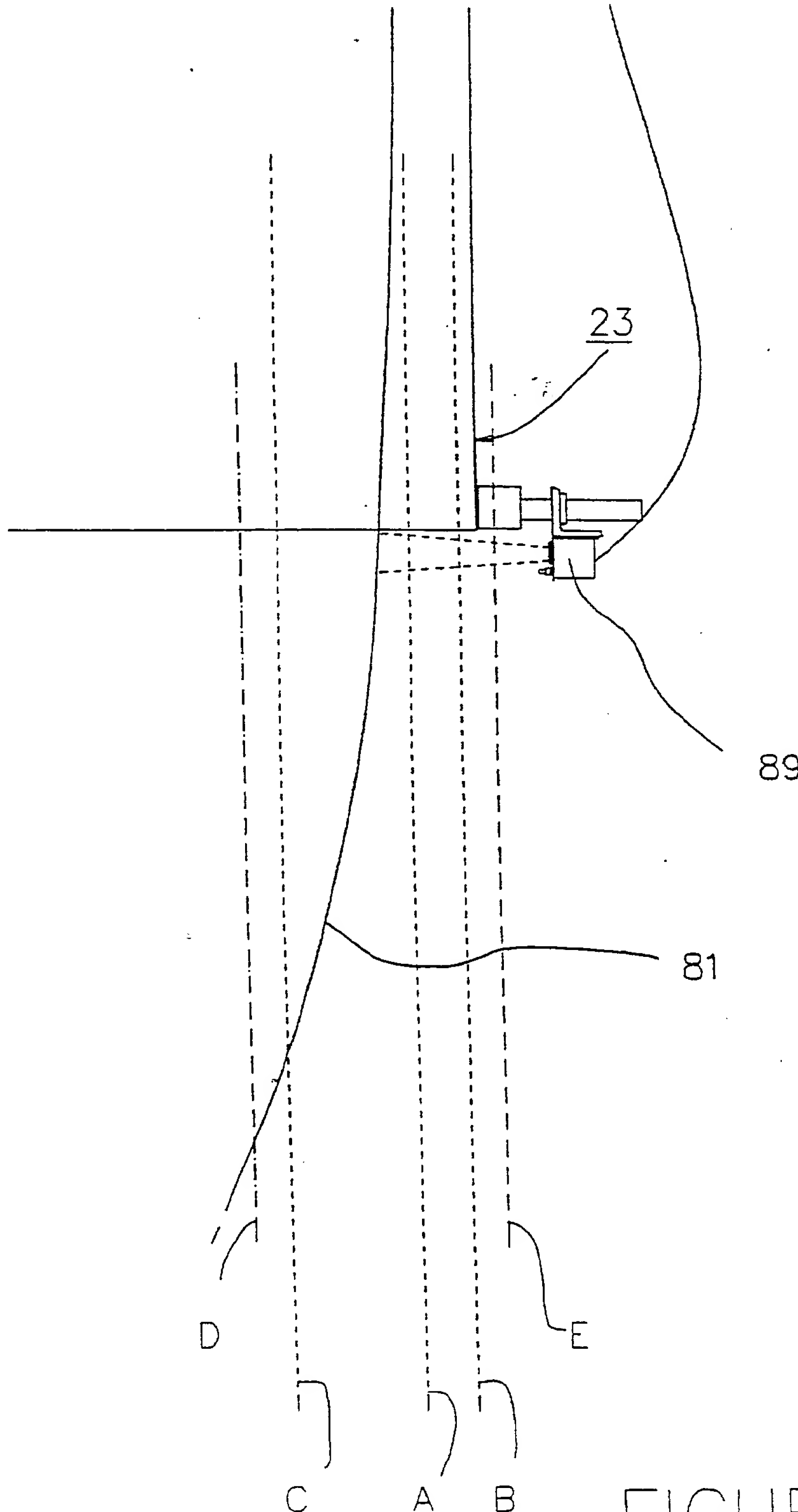


FIGURE 7B

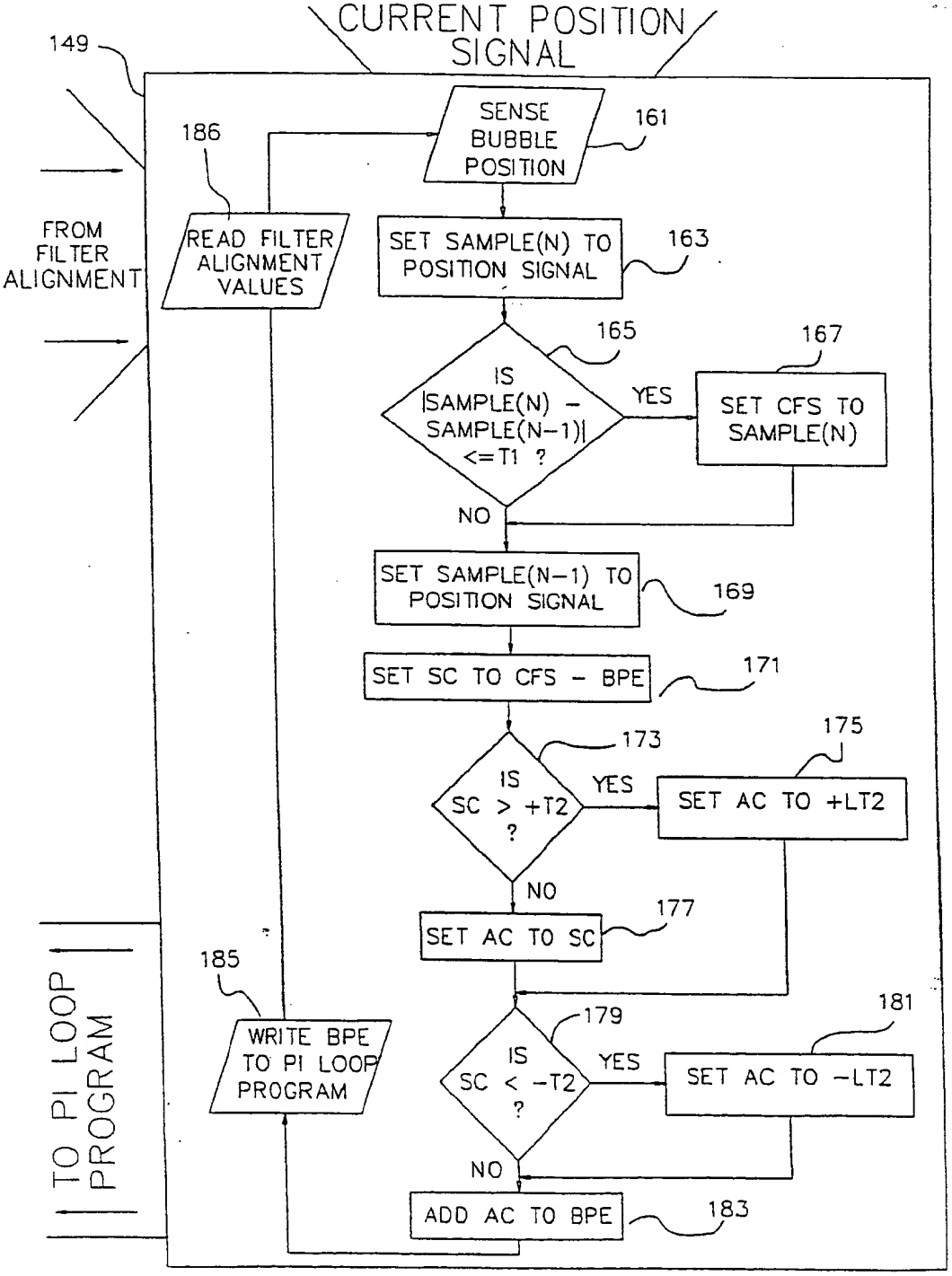

CURRENT POSITION SIGNAL
149
SENSE BUBBLE POSITION
161
186
FROM FILTER ALIGNMENT
READ FILTER ALIGNMENT VALUES
SET SAMPLE(N) TO POSITION SIGNAL
163
165
IS |SAMPLE(N) - SAMPLE(N-1)| <=T1 ?
YES
167
SET CFS TO SAMPLE(N)
NO
SET SAMPLE(N-1) TO POSITION SIGNAL
169
SET SC TO CFS - BPE
171
173
IS SC > +T2 ?
YES
175
SET AC TO +LT2
NO
SET AC TO SC
177
185
WRITE BPE TO PI LOOP PROGRAM
179
IS SC < -T2 ?
YES
181
SET AC TO -LT2
NO
ADD AC TO BPE
183
TO PI LOOP PROGRAM

FIGURE 8A

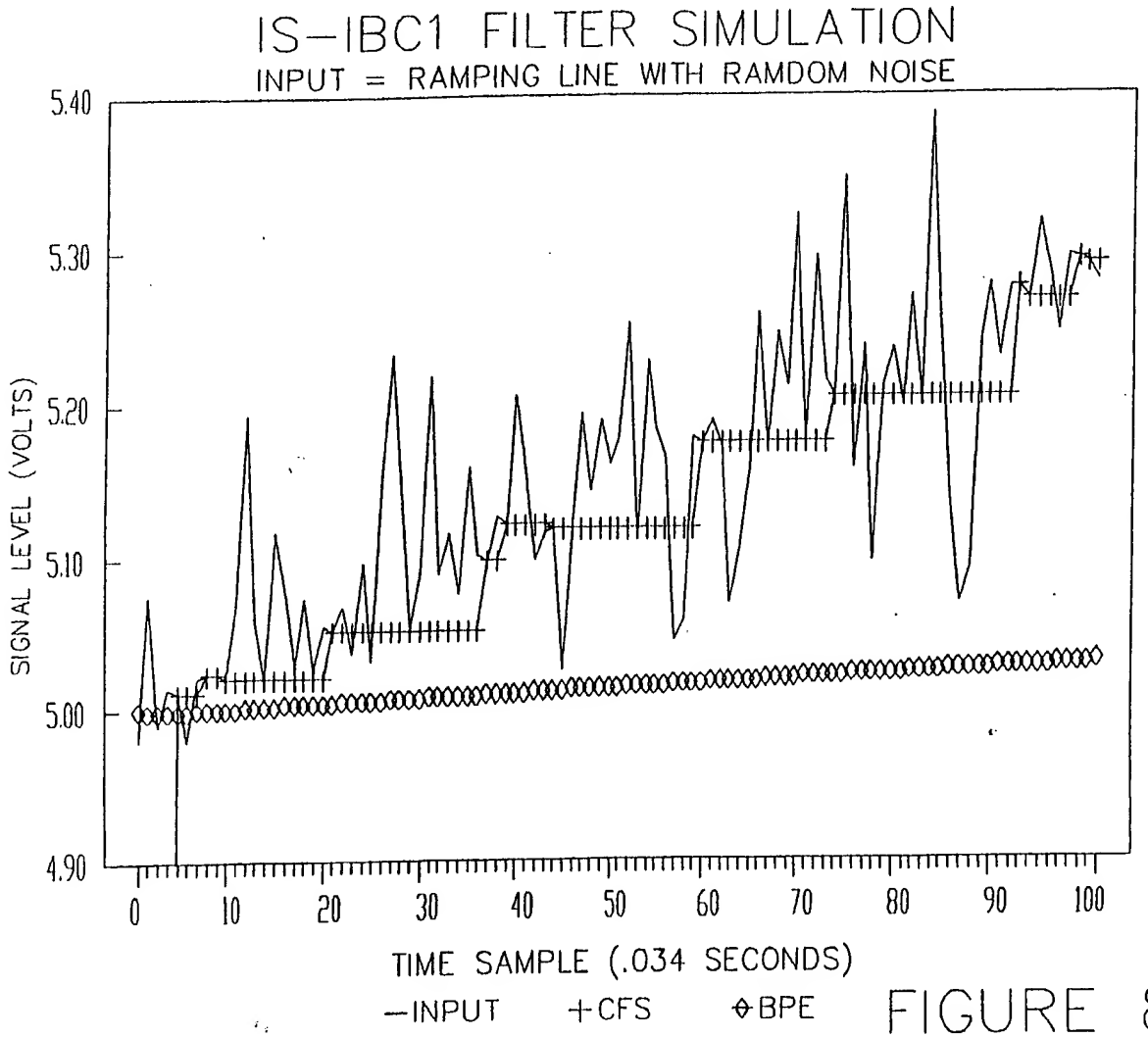

IS-IBC1 FILTER SIMULATION
INPUT = RAMPING LINE WITH RAMDOM NOISE
SIGNAL LEVEL (VOLTS)
5.40
5.30
5.20
5.10
5.00
4.90
0
10
20
30
40
50
60
70
80
90
100
TIME SAMPLE (.034 SECONDS)
—INPUT
+CFS
◇BPE

FIGURE 8B

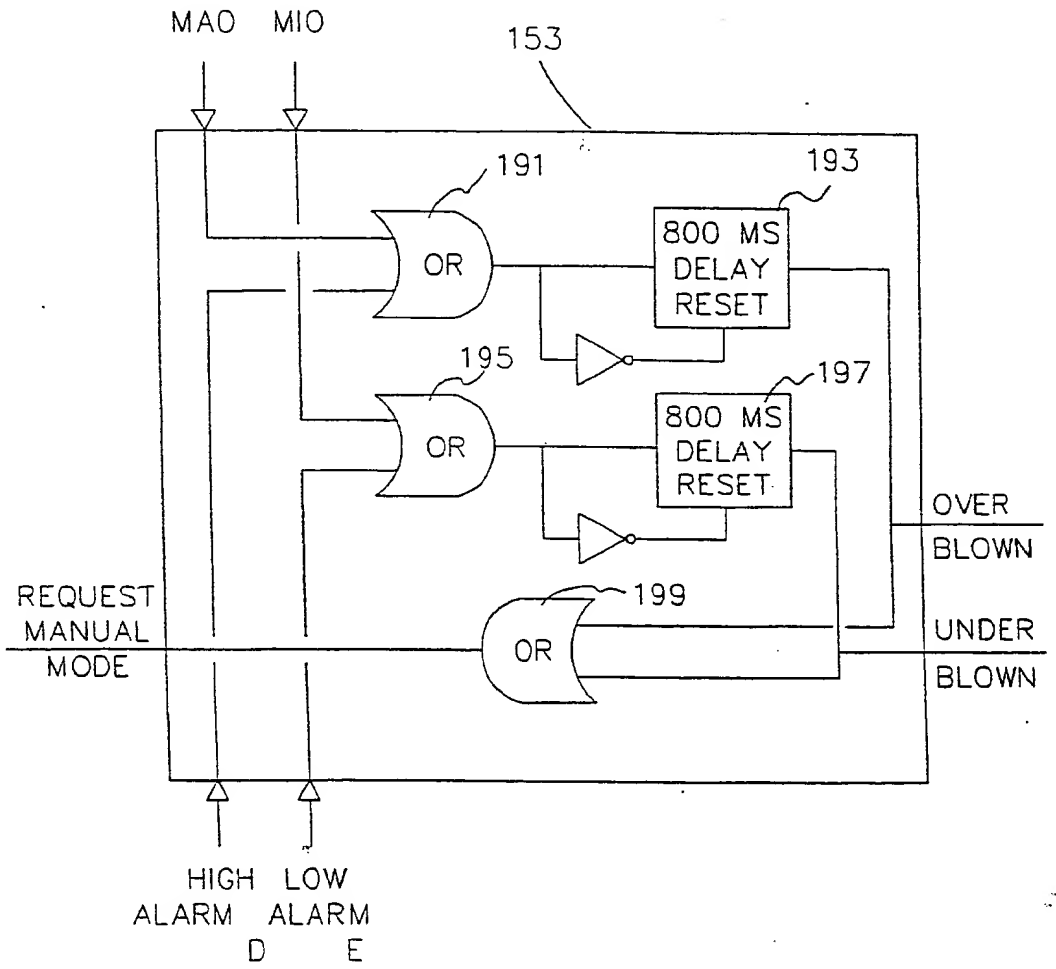

MAO
MIO
153
191
193
OR
800 MS
DELAY
RESET
195
197
OR
800 MS
DELAY
RESET
OVER
BLOWN
REQUEST
MANUAL
MODE
199
OR
UNDER
BLOWN
HIGH
ALARM
D
LOW
ALARM
E

FIGURE 9

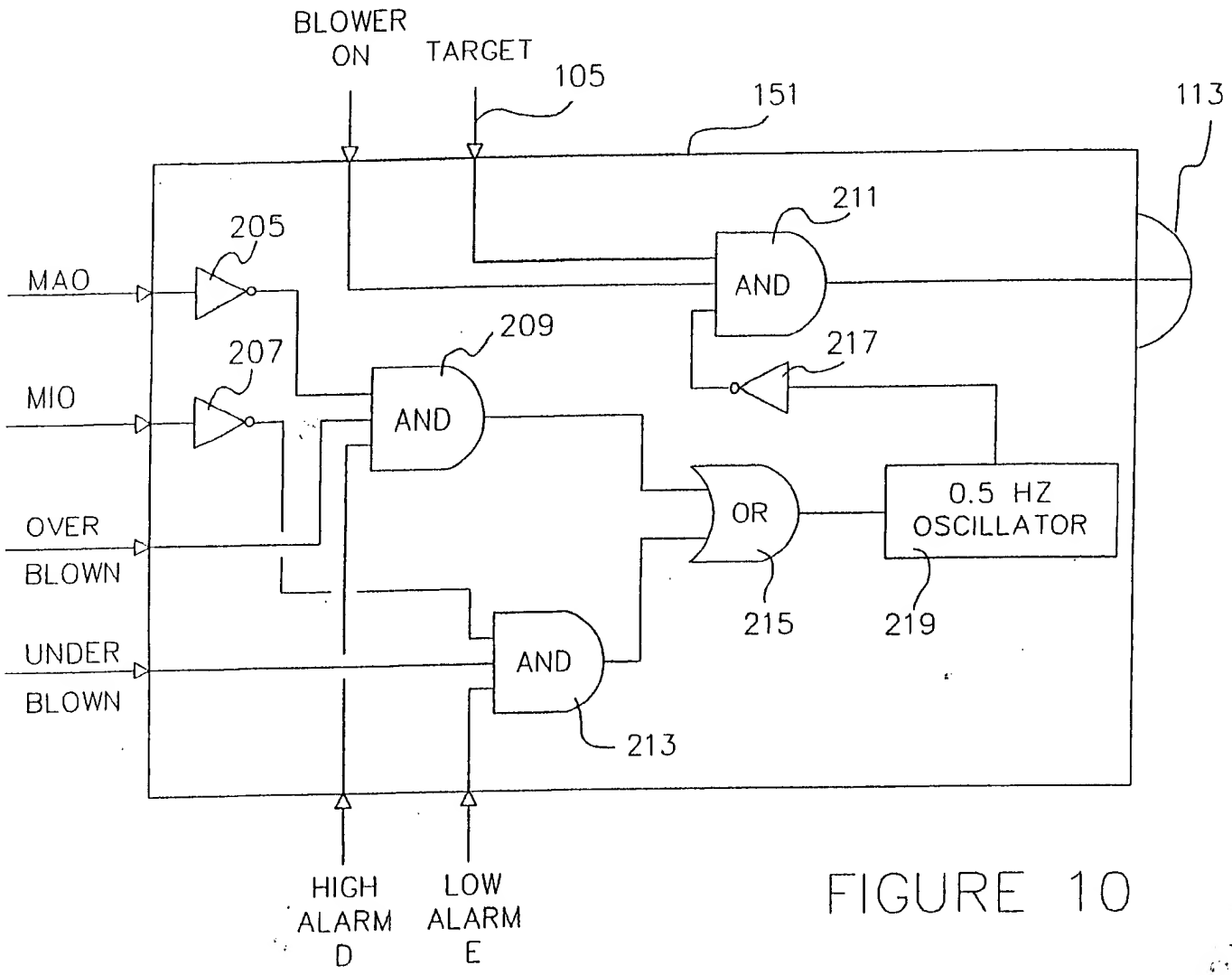

BLOWER ON
TARGET
105
151
113
205
211
MAO
AND
209
207
217
MIO
AND
OVER BLOWN
OR
0.5 HZ OSCILLATOR
215
219
UNDER BLOWN
AND
213
HIGH ALARM D
LOW ALARM E

FIGURE 10

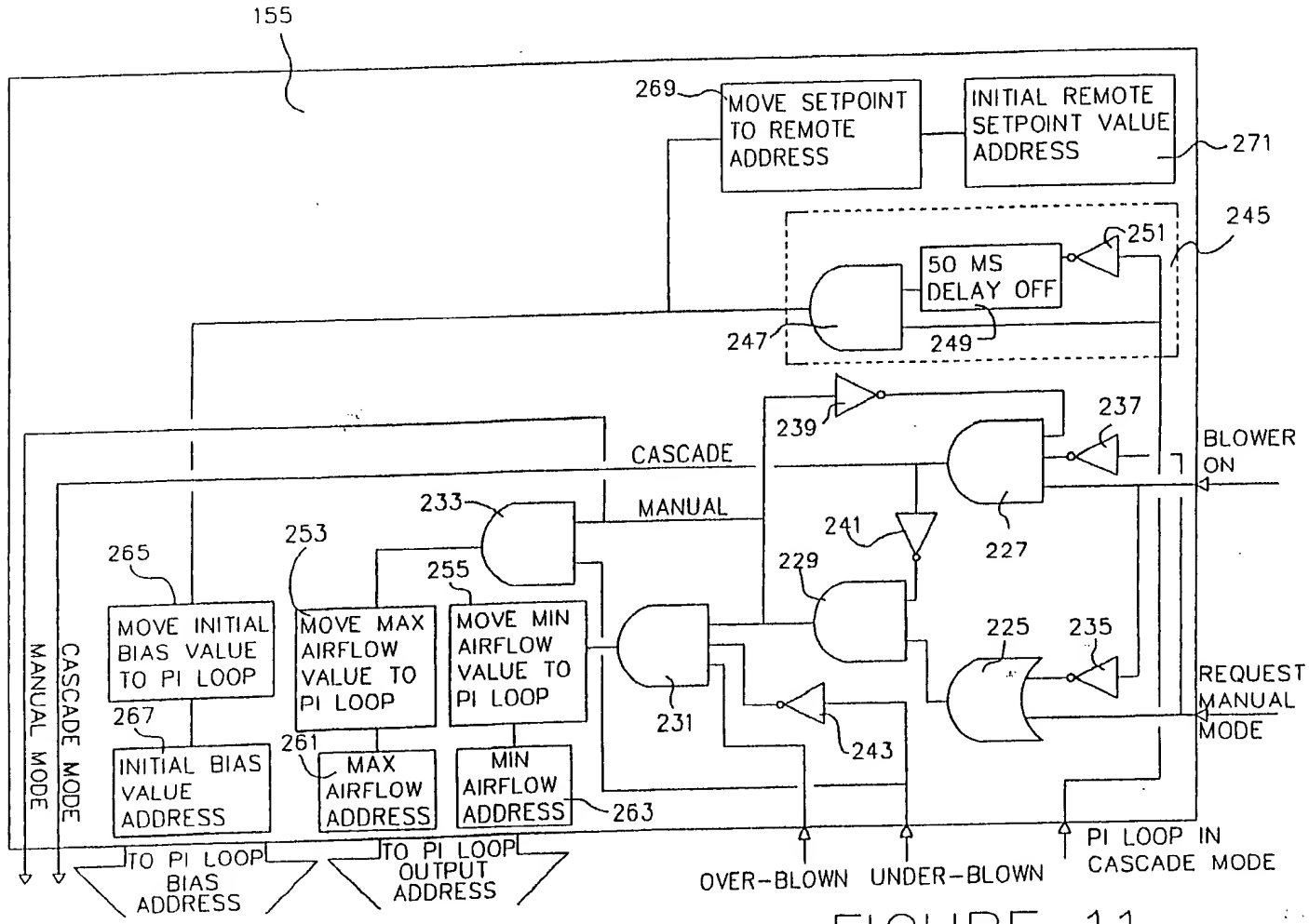

155
269
MOVE SETPOINT TO REMOTE ADDRESS
INITIAL REMOTE SETPOINT VALUE ADDRESS
271
245
251
50 MS DELAY OFF
247
249
239
237
BLOWER ON
CASCADE
MANUAL
233
241
227
253
255
229
265
MOVE INITIAL BIAS VALUE TO PI LOOP
MOVE MAX AIRFLOW VALUE TO PI LOOP
MOVE MIN AIRFLOW VALUE TO PI LOOP
225
235
231
243
REQUEST MANUAL MODE
267
261
INITIAL BIAS VALUE ADDRESS
MAX AIRFLOW ADDRESS
MIN AIRFLOW ADDRESS
263
MANUAL MODE
CASCADE MODE
TO PI LOOP BIAS ADDRESS
TO PI LOOP OUTPUT ADDRESS
OVER-BLOWN
UNDER-BLOWN
PI LOOP IN CASCADE MODE

FIGURE 11

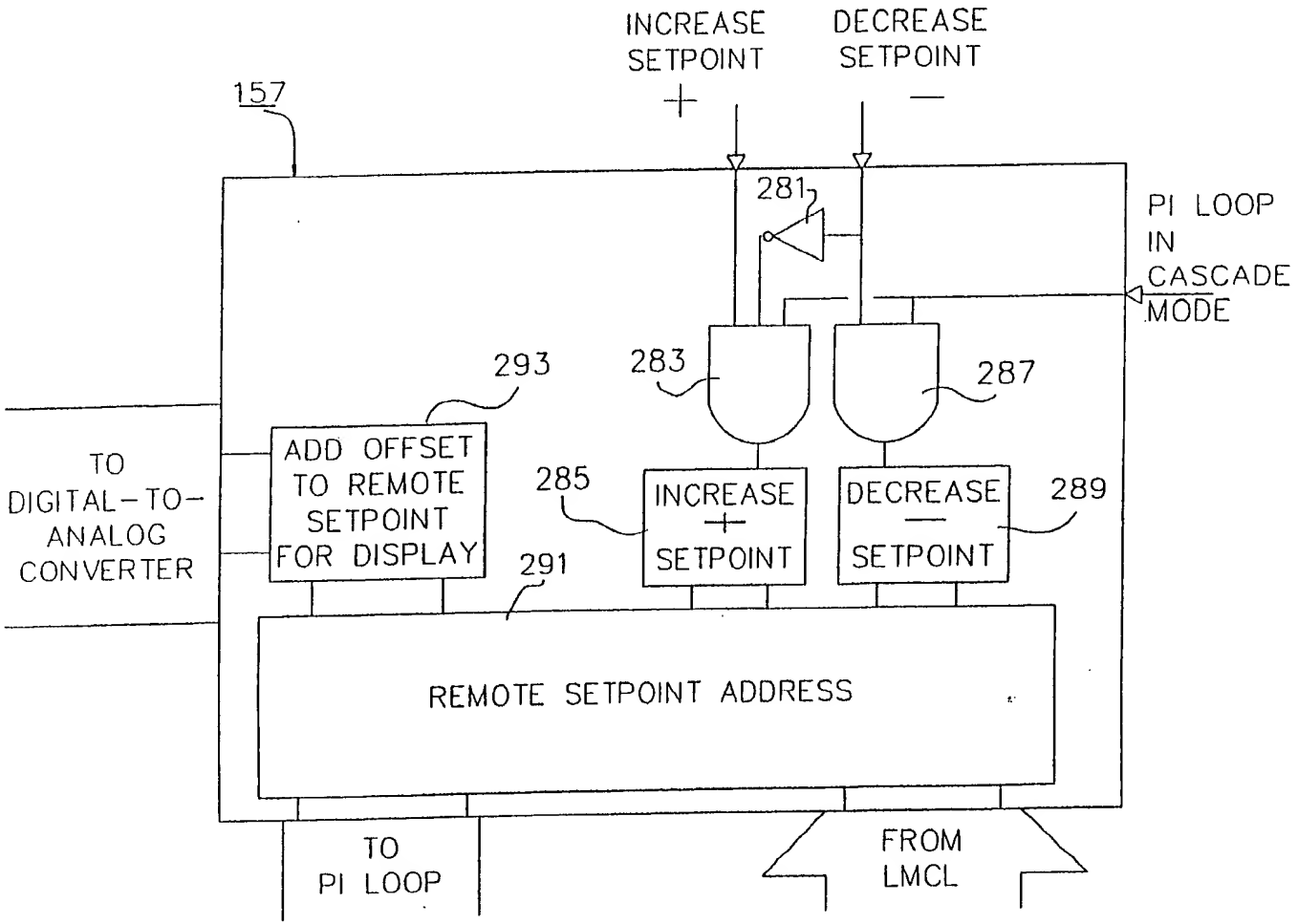

INCREASE SETPOINT
+
DECREASE SETPOINT
—
157
281
PI LOOP IN CASCADE MODE
293
283
287
TO DIGITAL-TO-ANALOG CONVERTER
ADD OFFSET TO REMOTE SETPOINT FOR DISPLAY
285
INCREASE + SETPOINT
DECREASE — SETPOINT
289
291
REMOTE SETPOINT ADDRESS
TO PI LOOP
FROM LMCL

FIGURE 12

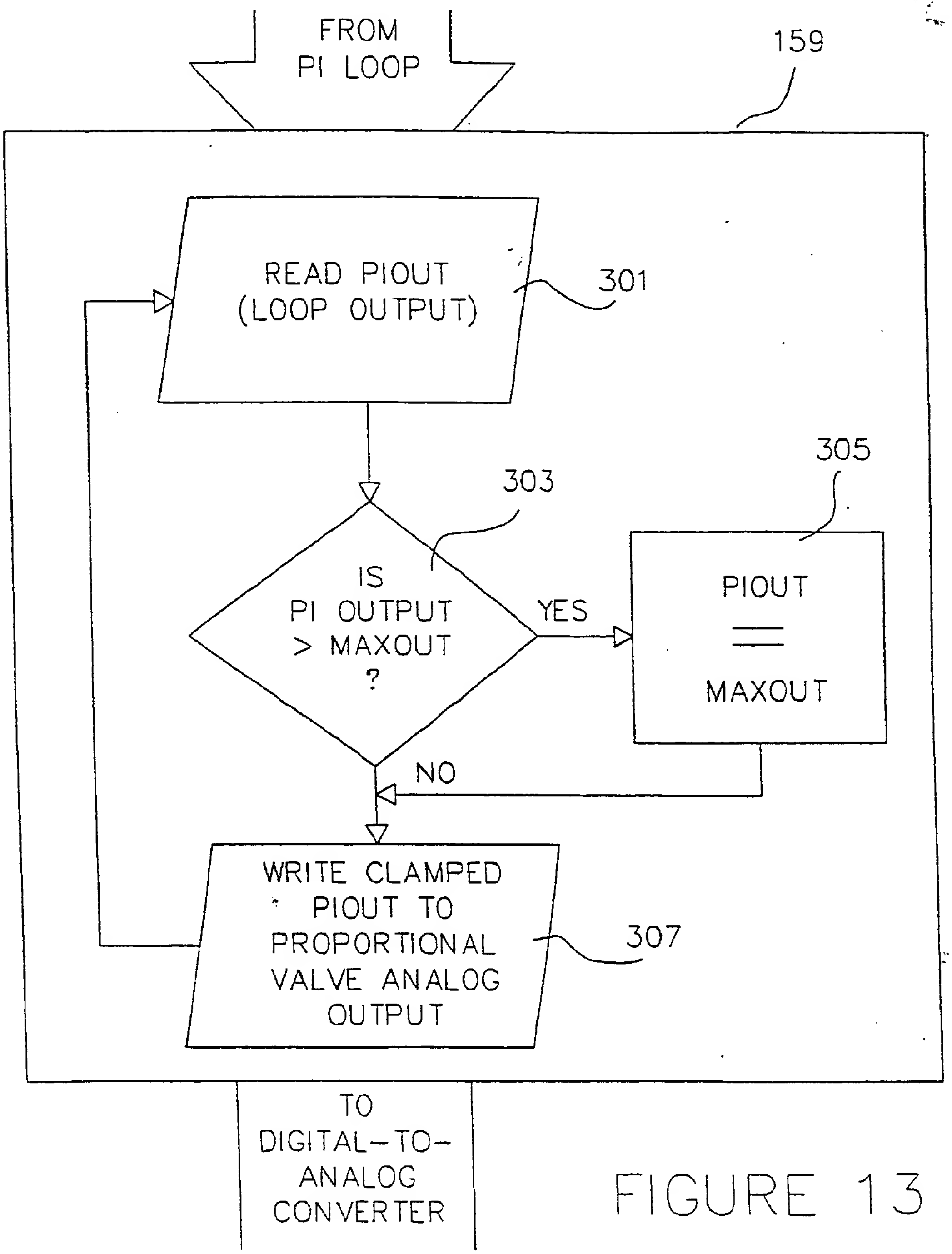

FROM
PI LOOP
159
READ PIOUT
(LOOP OUTPUT)
301
303
IS
PI OUTPUT
> MAXOUT
?
YES
305
PIOUT
==
MAXOUT
NO
WRITE CLAMPED
PIOUT TO
PROPORTIONAL
VALVE ANALOG
OUTPUT
307
TO
DIGITAL-TO-
ANALOG
CONVERTER

FIGURE 13

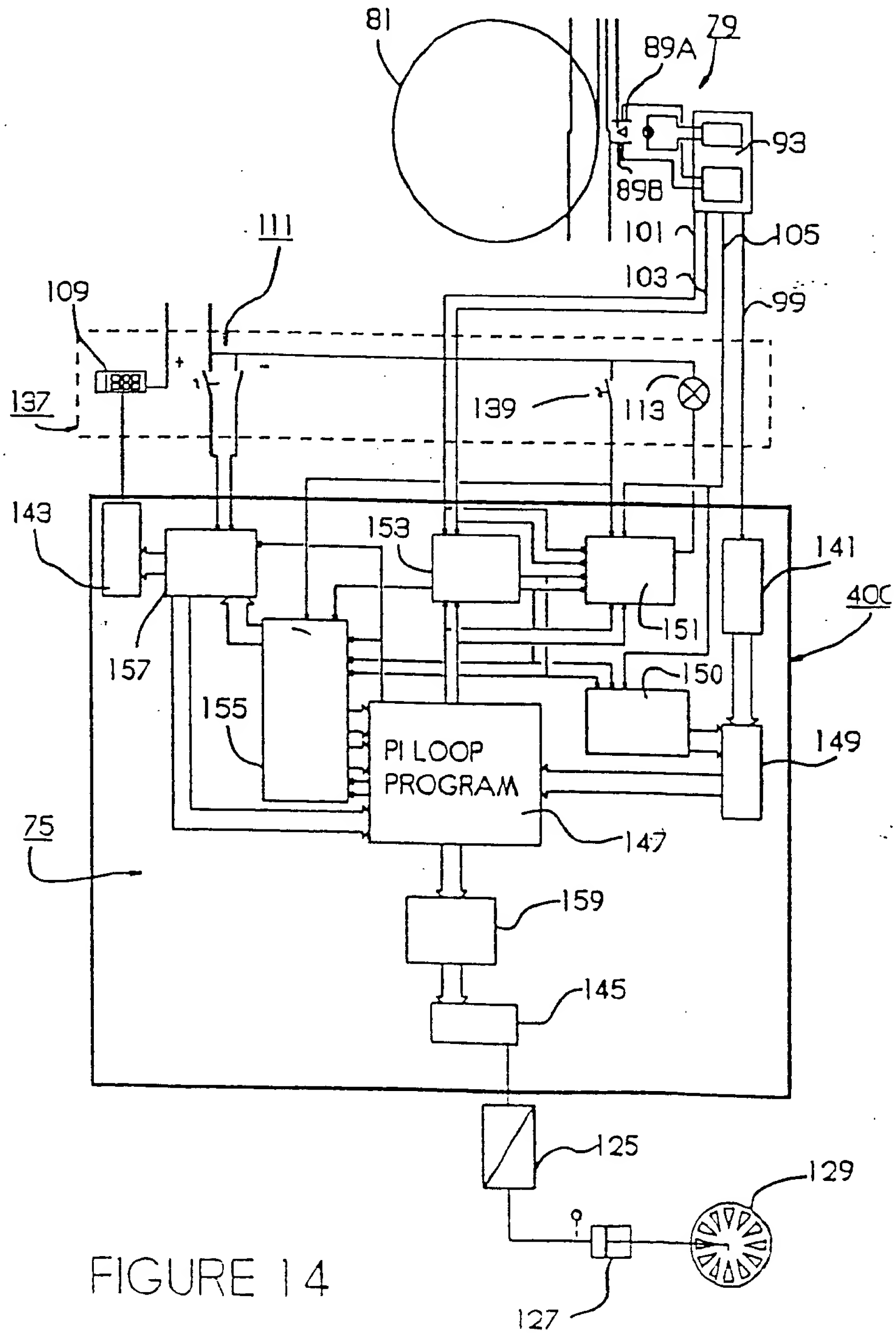

81
79
89A
93
89B
101
105
103
99
111
109
1888
+
-
137
139
113
143
153
141
400
157
151
150
155
PI LOOP
PROGRAM
149
75
147
159
145
125
129
127

FIGURE 14

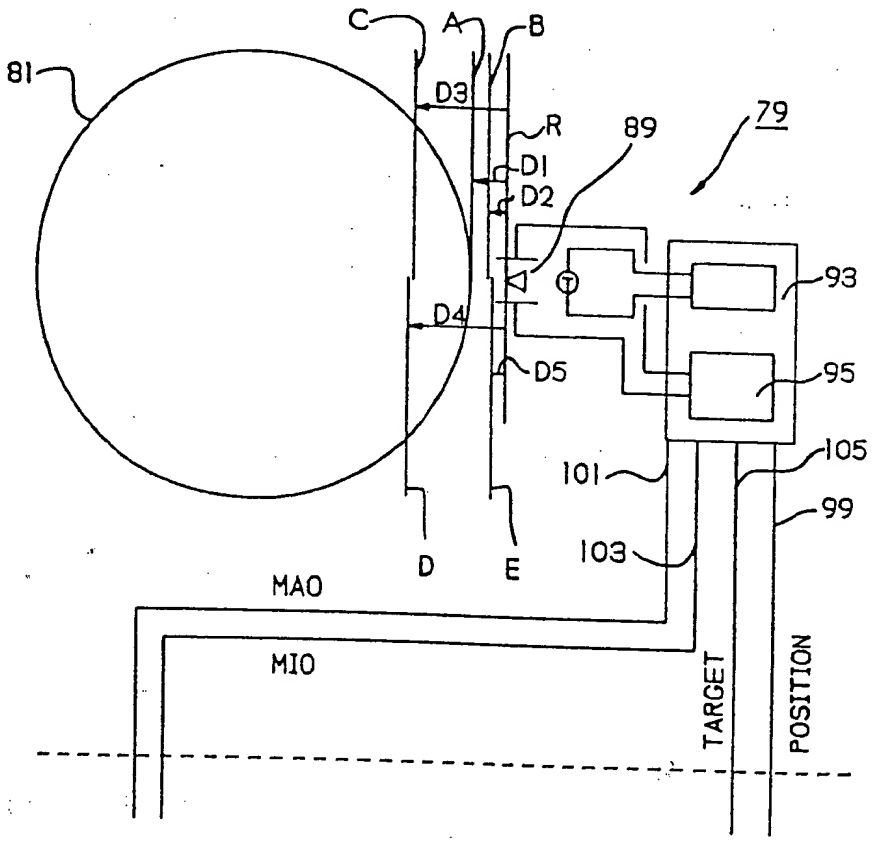


FIGURE 15

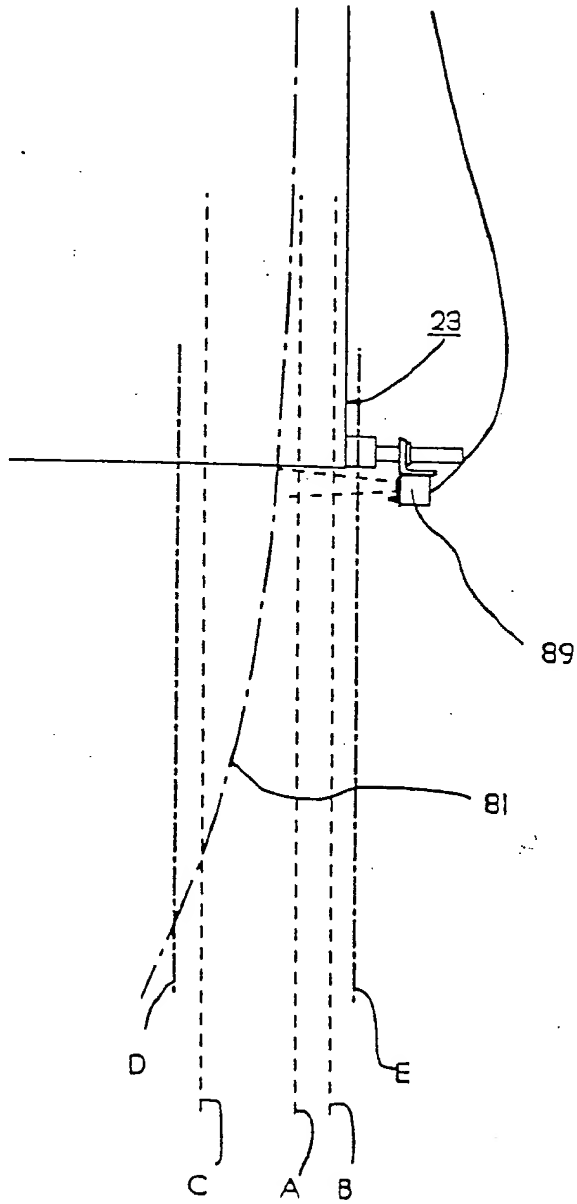


FIGURE 16

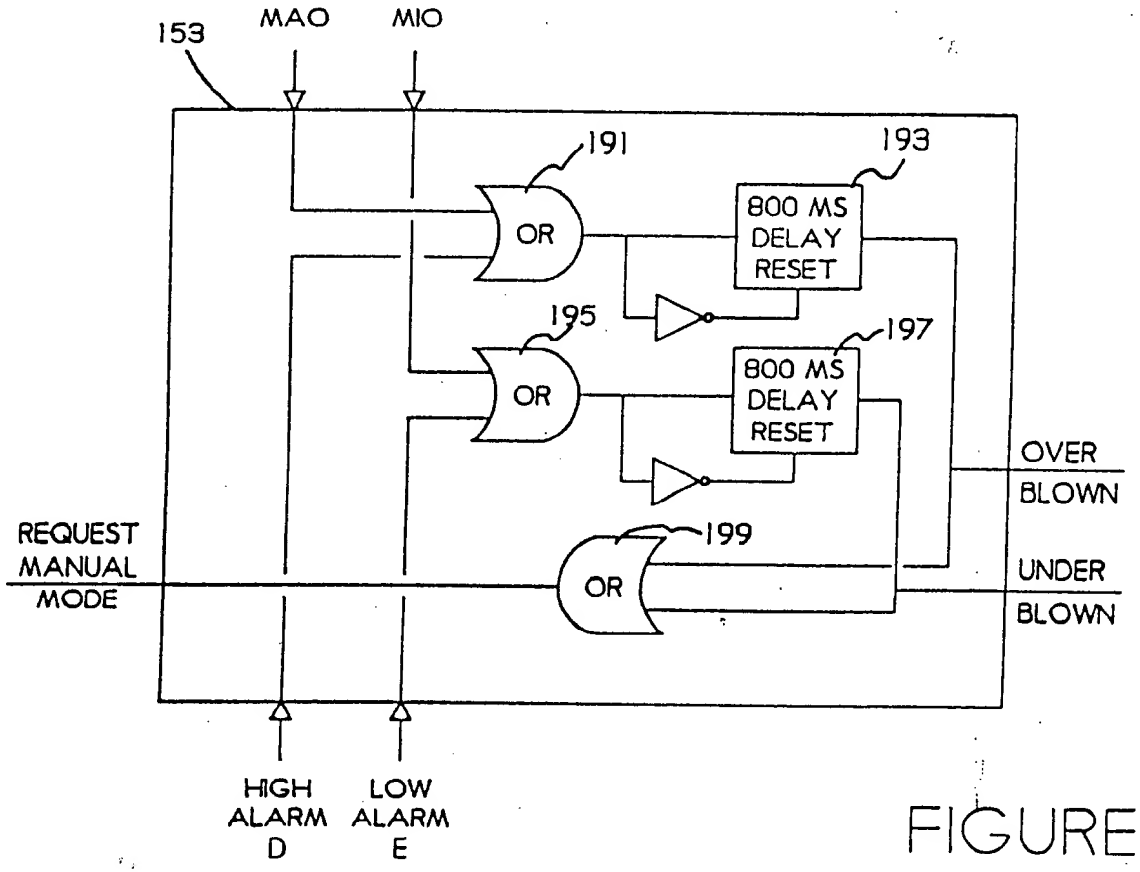


FIGURE 17

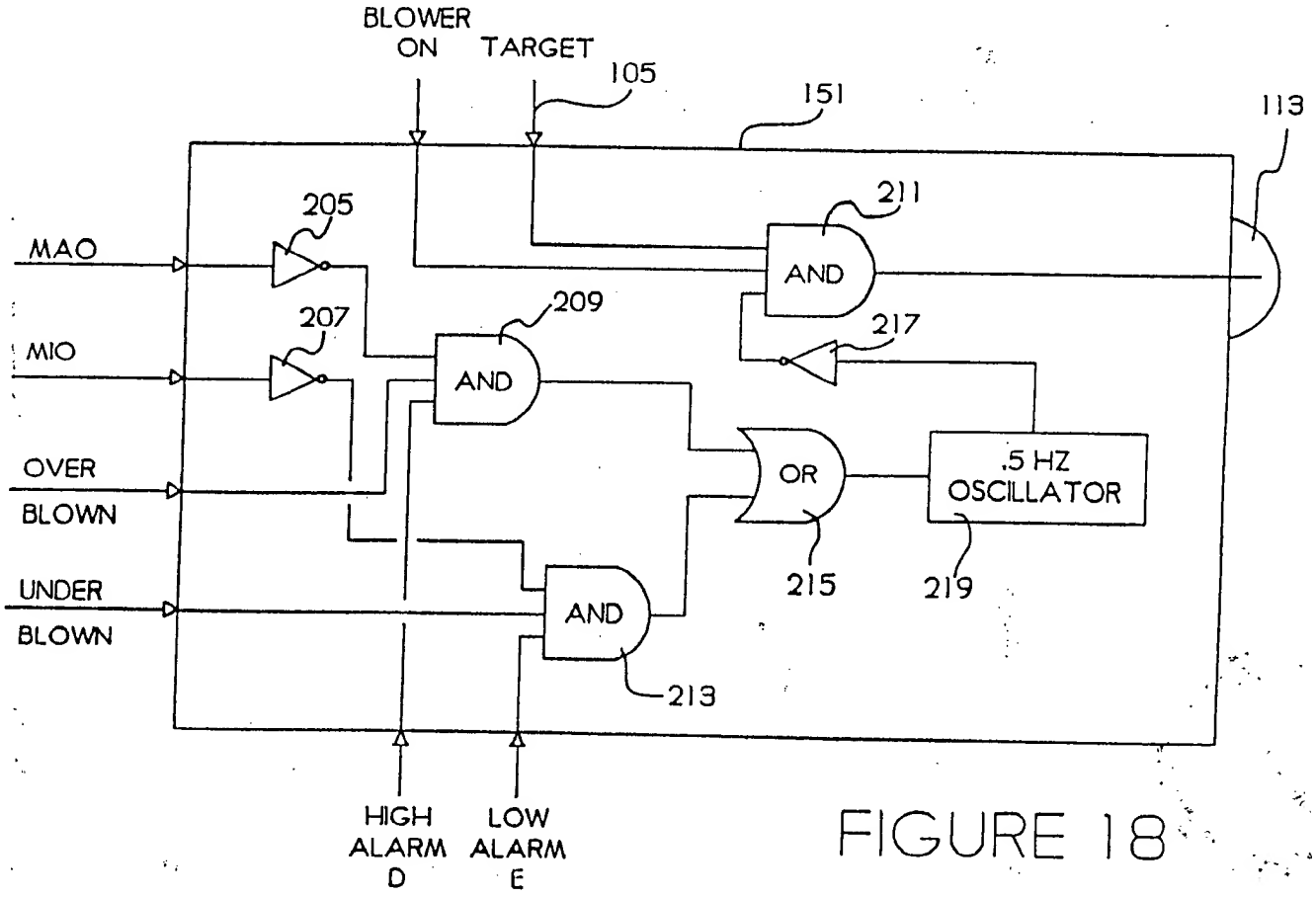
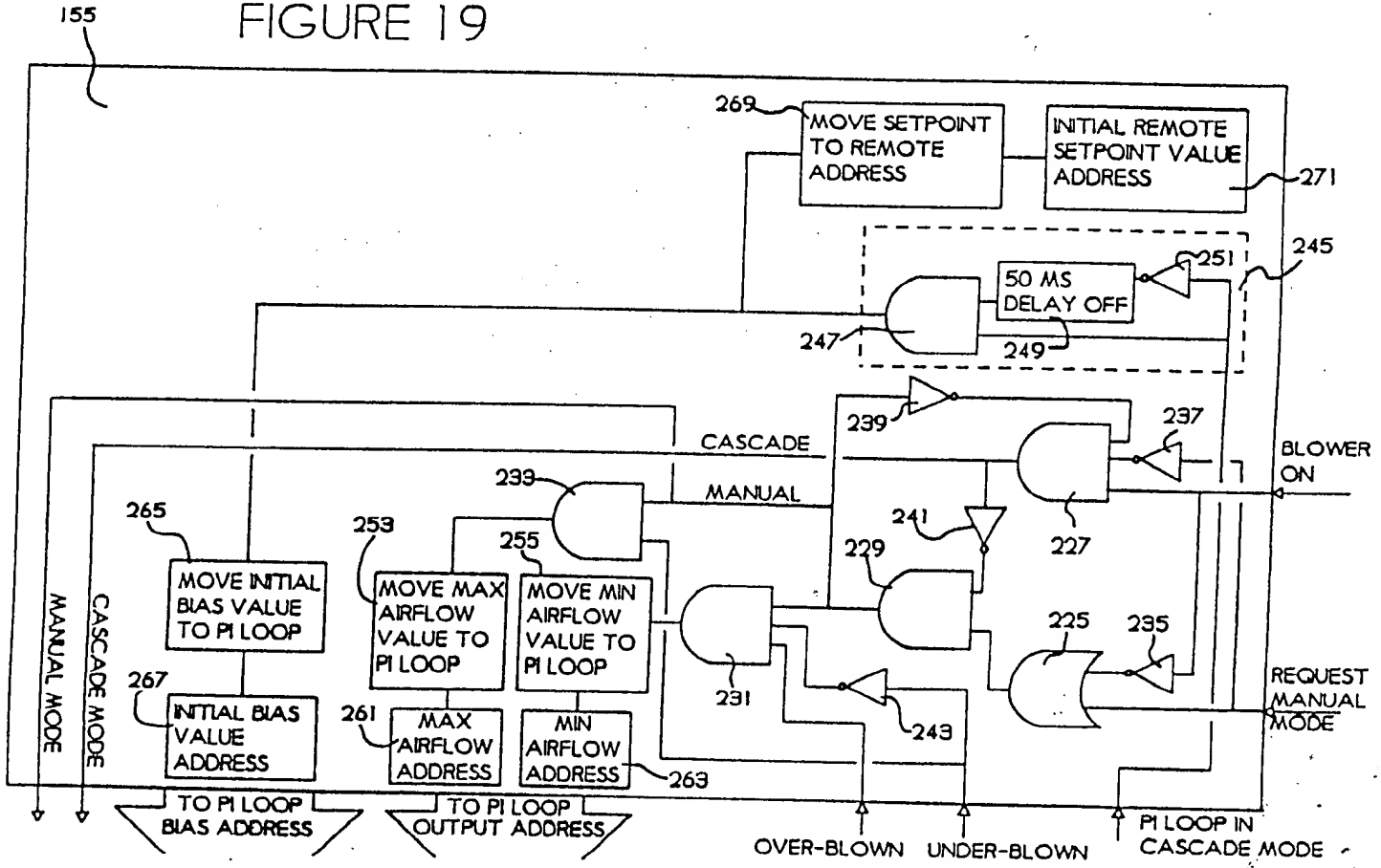


FIGURE 18

FIGURE 19


155
269
MOVE SETPOINT TO REMOTE ADDRESS
INITIAL REMOTE SETPOINT VALUE ADDRESS
271
245
251
50 MS DELAY OFF
247
249
239
237
CASCADE
MANUAL
233
BLOWER ON
265
253
255
241
227
229
MOVE INITIAL BIAS VALUE TO PI LOOP
MOVE MAX AIRFLOW VALUE TO PI LOOP
MOVE MIN AIRFLOW VALUE TO PI LOOP
225
235
231
267
243
REQUEST MANUAL MODE
INITIAL BIAS VALUE ADDRESS
261
MAX AIRFLOW ADDRESS
MIN AIRFLOW ADDRESS
263
MANUAL MODE
CASCADE MODE
TO PI LOOP BIAS ADDRESS
TO PI LOOP OUTPUT ADDRESS
OVER-BLOWN
UNDER-BLOWN
PI LOOP IN CASCADE MODE

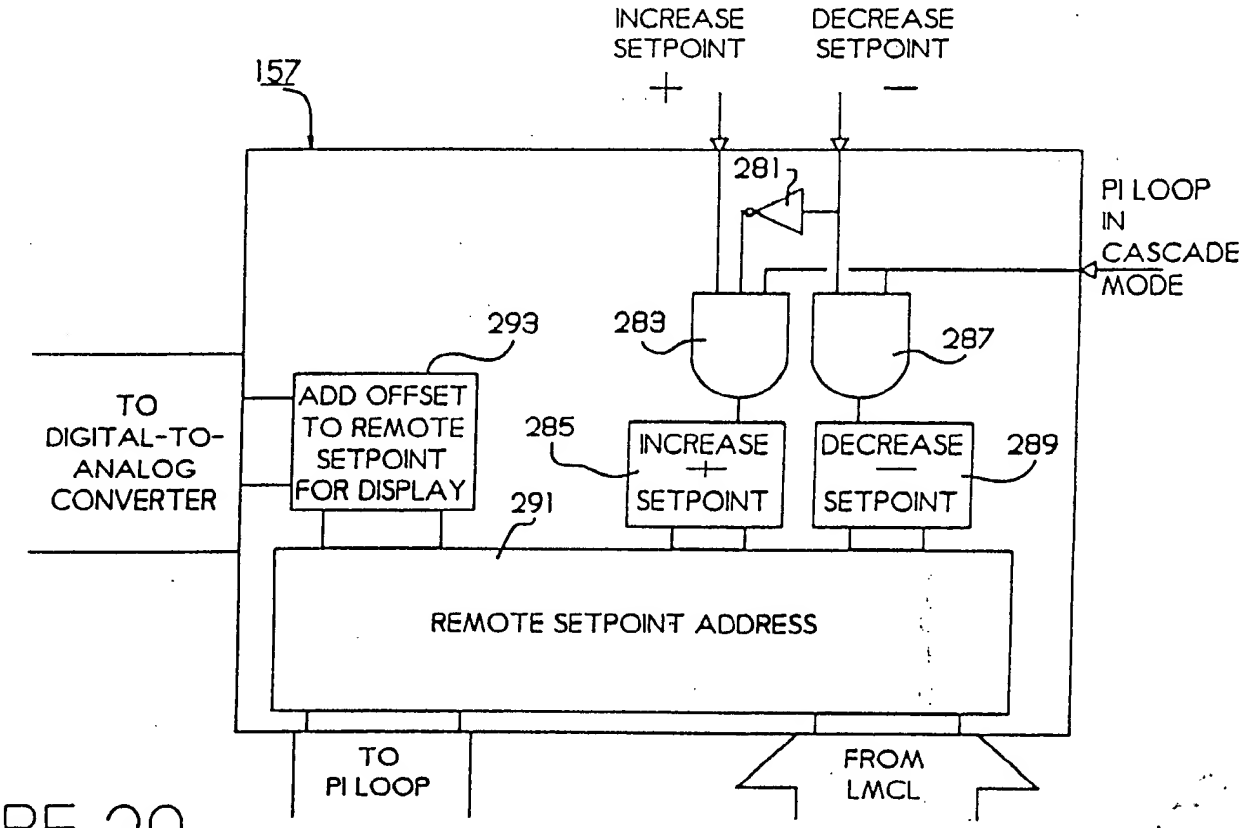


FIGURE 20

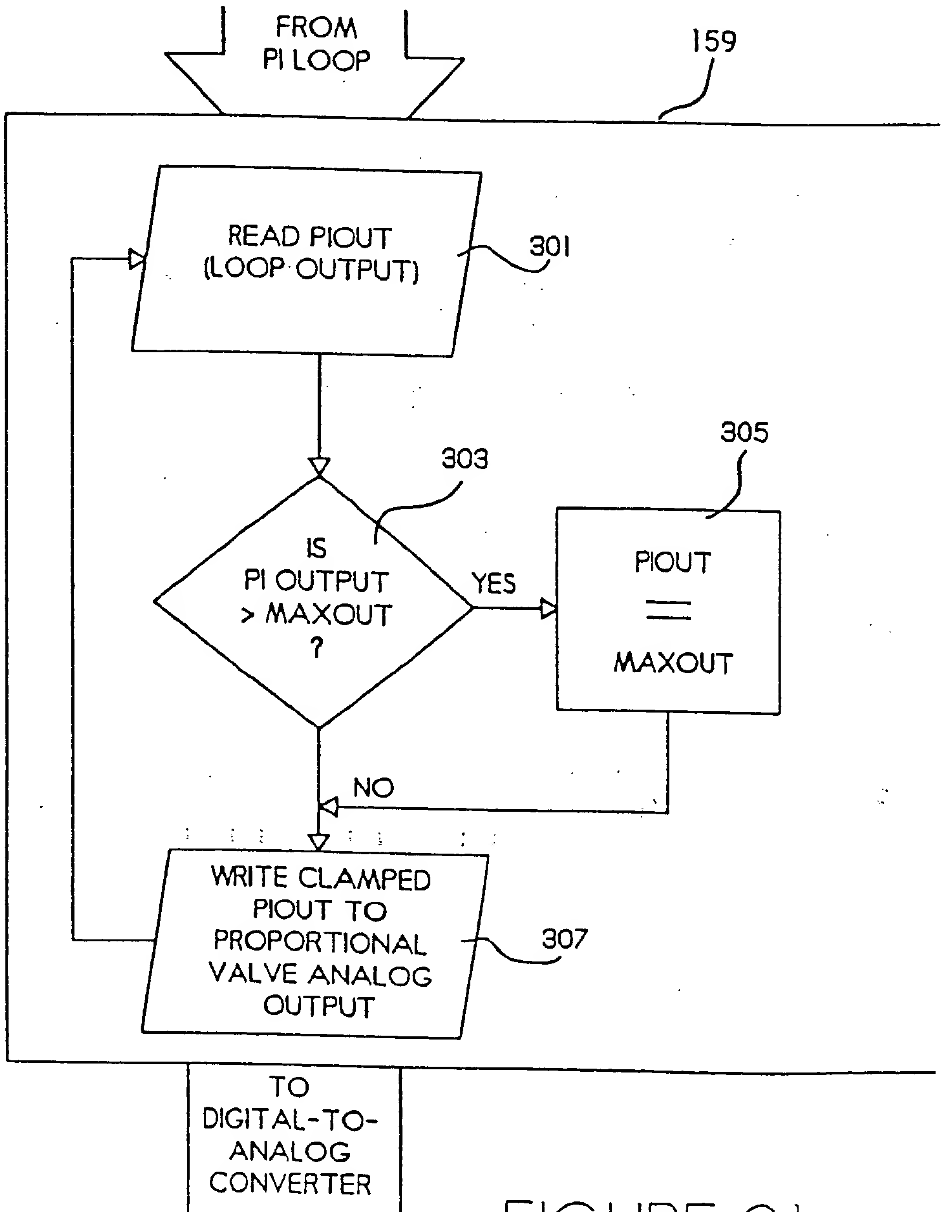
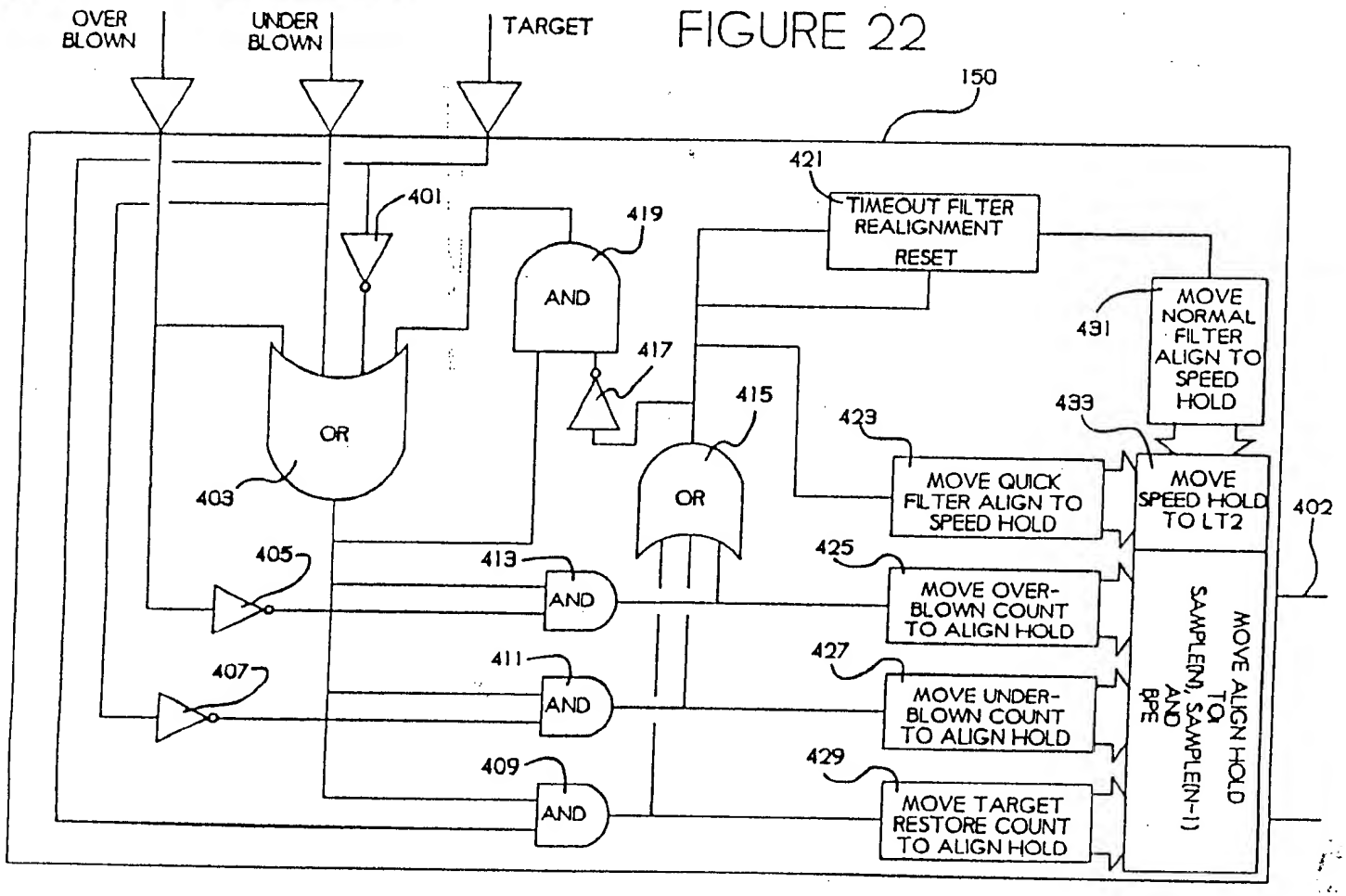

FROM
PI LOOP
159
READ PIOUT
(LOOP OUTPUT)
301
303
305
IS
PI OUTPUT
> MAXOUT
?
YES
PIOUT
=
MAXOUT
NO
WRITE CLAMPED
PIOUT TO
PROPORTIONAL
VALVE ANALOG
OUTPUT
307
TO
DIGITAL-TO-
ANALOG
CONVERTER

FIGURE 21

FIGURE 22


OVER BLOWN
UNDER BLOWN
TARGET
150
421
TIMEOUT FILTER REALIGNMENT RESET
401
419
AND
417
415
OR
OR
403
431
MOVE NORMAL FILTER ALIGN TO SPEED HOLD
433
423
MOVE QUICK FILTER ALIGN TO SPEED HOLD
MOVE SPEED HOLD TO LT2
402
405
413
AND
425
MOVE OVER-BLOWN COUNT TO ALIGN HOLD
407
411
AND
427
MOVE UNDER-BLOWN COUNT TO ALIGN HOLD
409
AND
429
MOVE TARGET RESTORE COUNT TO ALIGN HOLD
MOVE ALIGN HOLD TO SAMPLE(N), SAMPLE(N-1) AND BPE

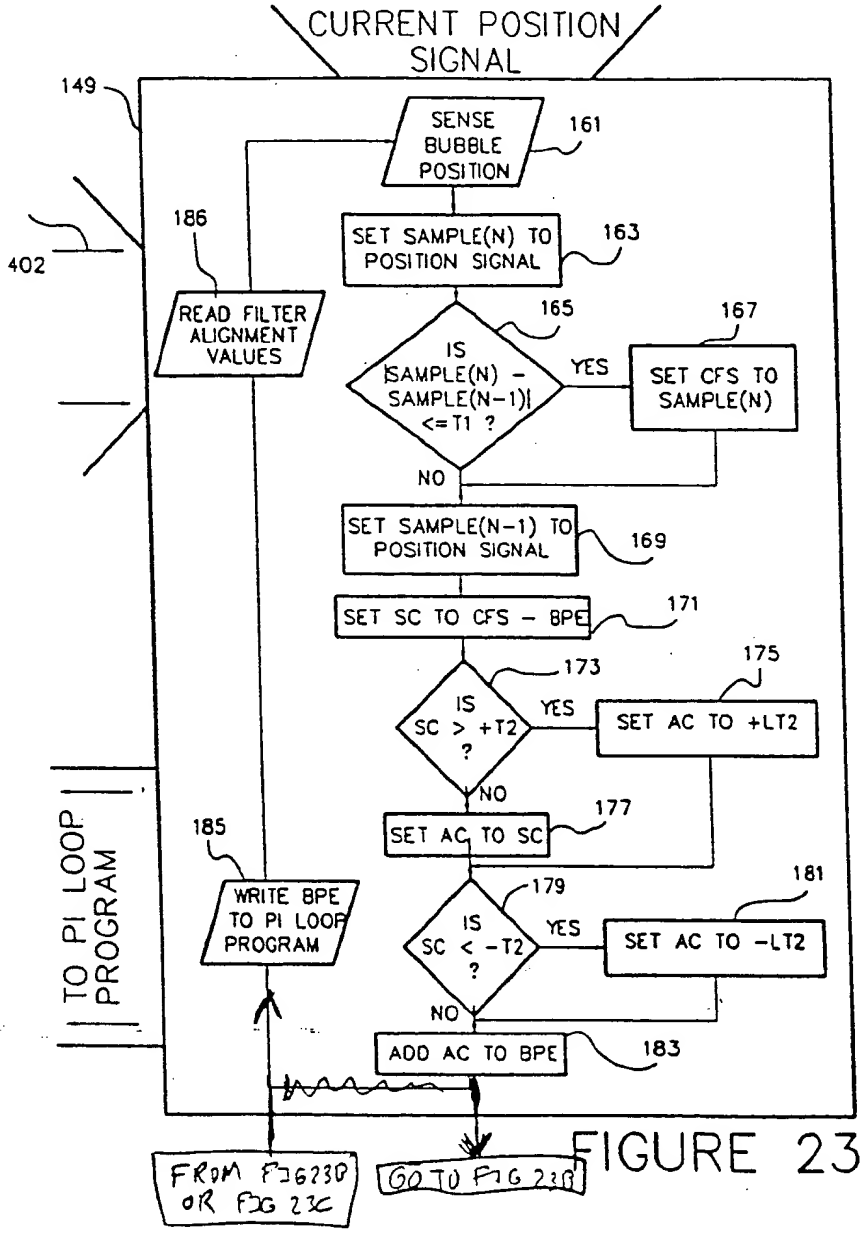

CURRENT POSITION SIGNAL
149
SENSE BUBBLE POSITION
161
186
402
SET SAMPLE(N) TO POSITION SIGNAL
163
READ FILTER ALIGNMENT VALUES
165
IS |SAMPLE(N) - SAMPLE(N-1)| <= T1 ?
YES
167
SET CFS TO SAMPLE(N)
NO
SET SAMPLE(N-1) TO POSITION SIGNAL
169
SET SC TO CFS - BPE
171
173
IS SC > +T2 ?
YES
175
SET AC TO +LT2
NO
177
SET AC TO SC
185
WRITE BPE TO PI LOOP PROGRAM
179
IS SC < -T2 ?
YES
181
SET AC TO -LT2
NO
ADD AC TO BPE
183
TO PI LOOP PROGRAM
FROM FIG 23B OR FIG 23C
GO TO FIG 23B

FIGURE 23A

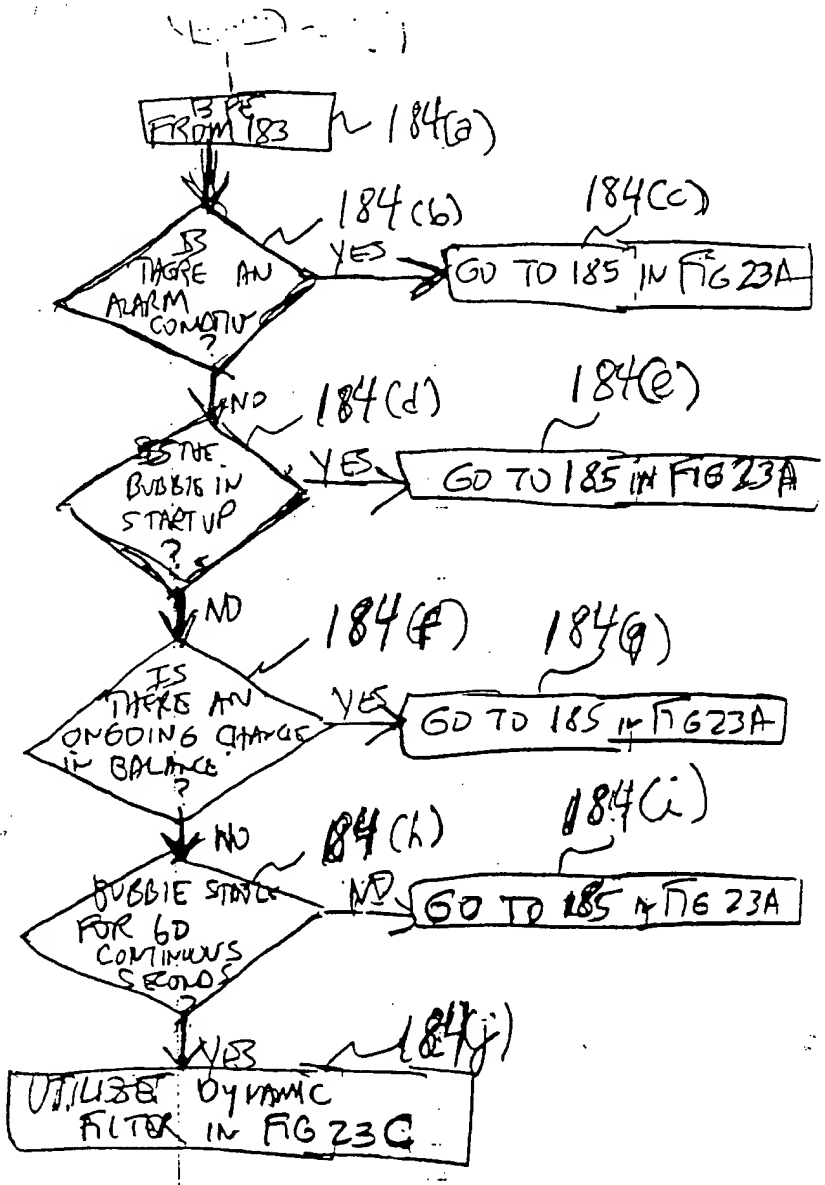

FROM 183
184(a)
IS THERE AN ALARM CONDITION ?
184(b)
YES
184(c)
GO TO 185 IN FIG 23A
NO
184(d)
IS THE BUBBLE IN START UP ?
184(e)
YES
GO TO 185 IN FIG 23A
NO
184(f)
IS THERE AN ONGOING CHANGE IN BALANCE ?
184(g)
YES
GO TO 185 IN FIG 23A
NO
184(h)
BUBBLE STABLE FOR 60 CONTINUOUS SECONDS ?
184(i)
NO
GO TO 185 IN FIG 23A
YES
184(j)
UTILIZE DYNAMIC FILTER IN FIG 23C

FIGURE 23B

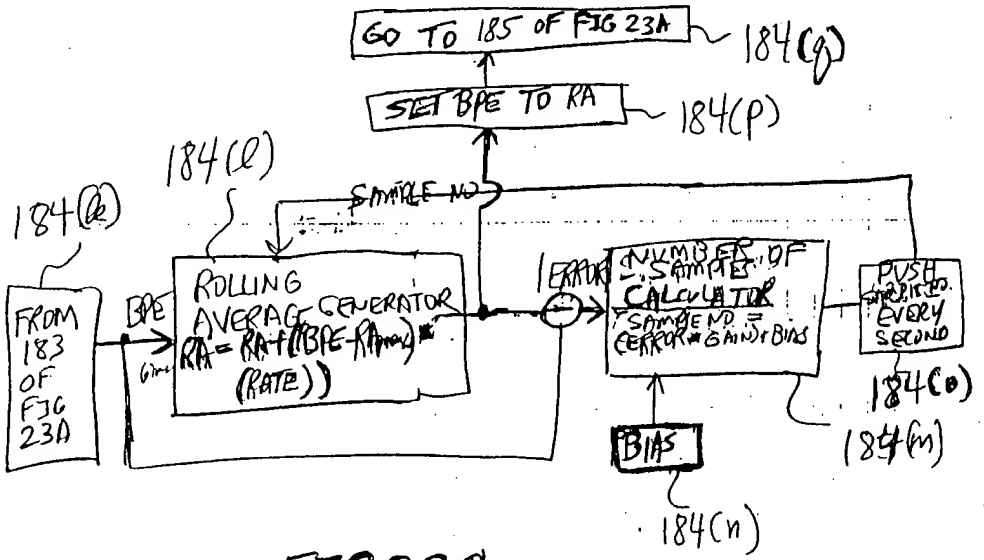

GO TO 185 OF FIG 23A
184(q)
SET BPE TO RA
184(p)
184(l)
184(k)
SAMPLE NO
FROM 183 OF FIG 23A
BPE
ROLLING AVERAGE GENERATOR
RA = RA + ((BPE - RA) * (RATE))
ERROR
NUMBER OF SAMPLES CALCULATION
SAMPLE NO. = ERROR * GAIN + BIAS
PUSH SAMPLE NO. EVERY SECOND
184(o)
184(m)
BIAS
184(n)

FIG 23C

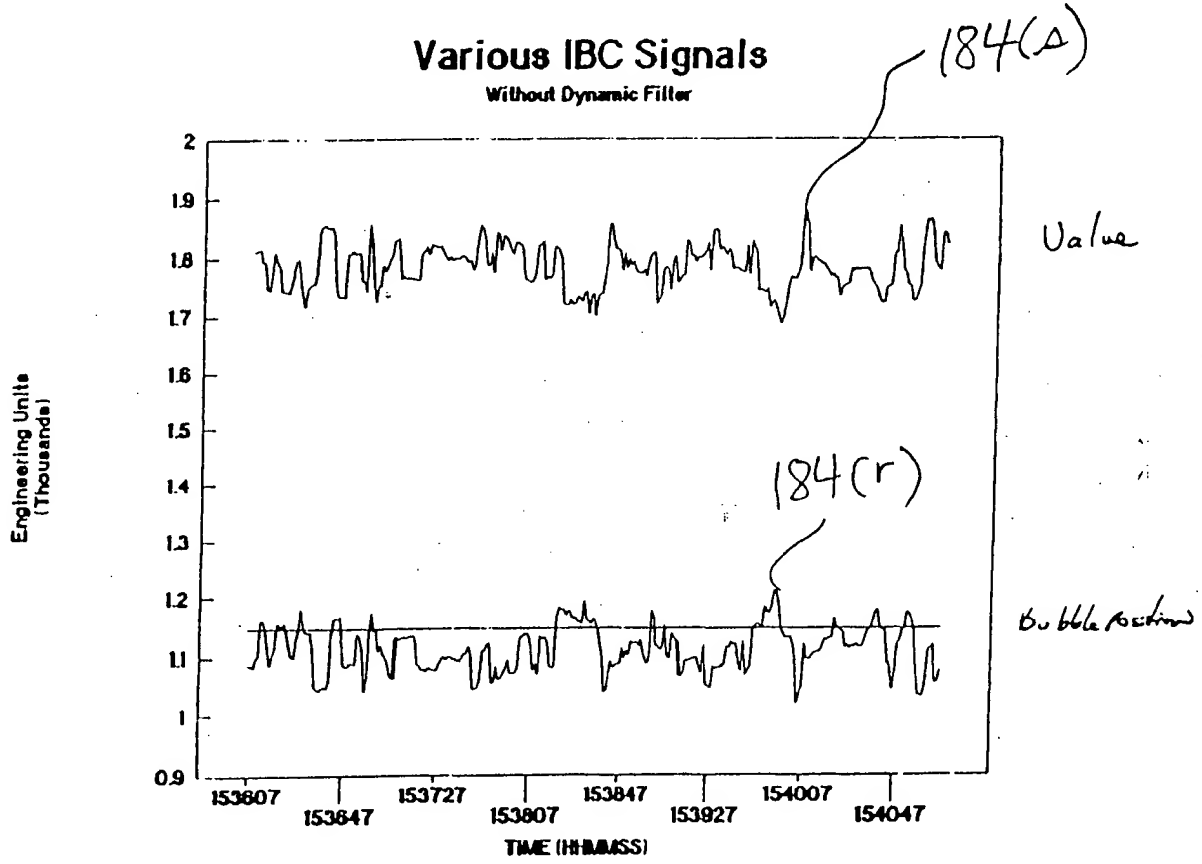

Various IBC Signals
Without Dynamic Filter
184(A)
Value
184(r)
Bubble Action
Engineering Units
(Thousands)
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
153607
153647
153727
153807
153847
153927
154007
154047
TIME (HHMMSS)

Figure 23D

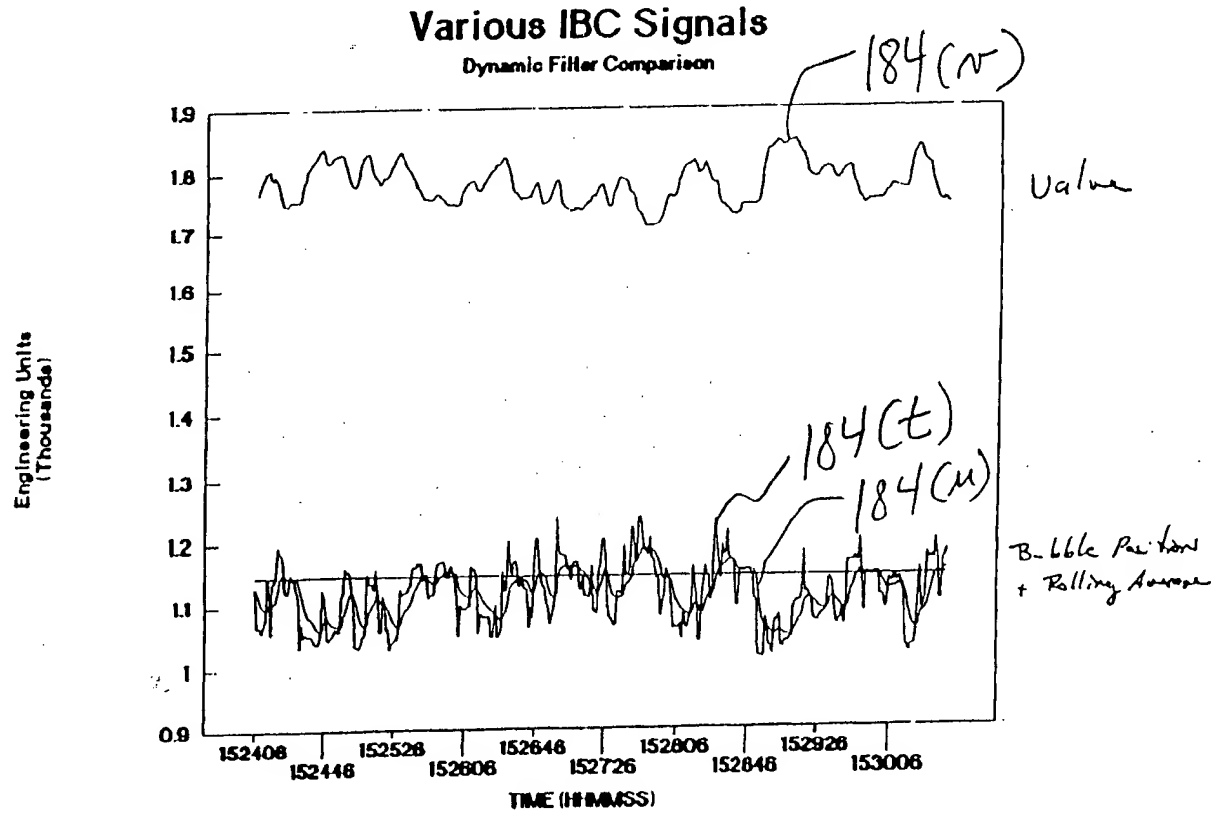

Various IBC Signals
Dynamic Filter Comparison
184(N)
Value
184(t)
184(u)
B-Lble Position
+ Rolling Average
Engineering Units
(Thousands)
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
152408
152446
152528
152606
152646
152726
152806
152846
152926
153006
TIME (HHMMSS)

Figure 23E

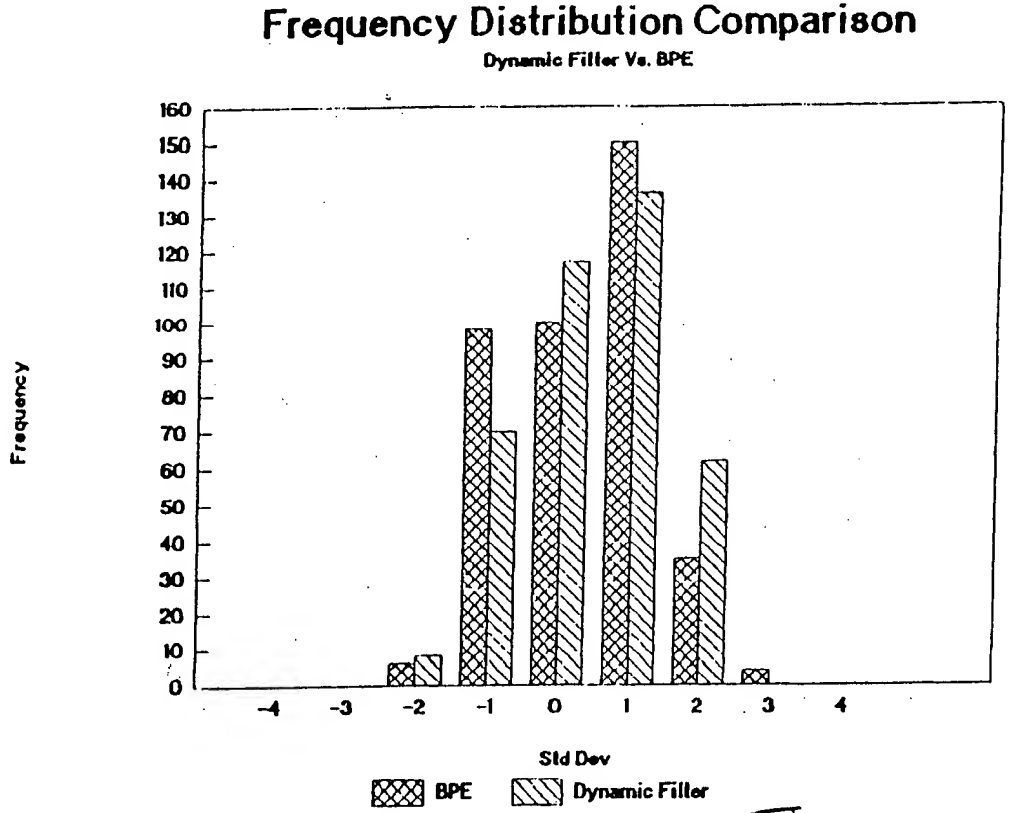

Frequency Distribution Comparison
Dynamic Filler Vs. BPE
Frequency
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-4
-3
-2
-1
0
1
2
3
4
Std Dev
BPE
Dynamic Filler

FIGURE 23F

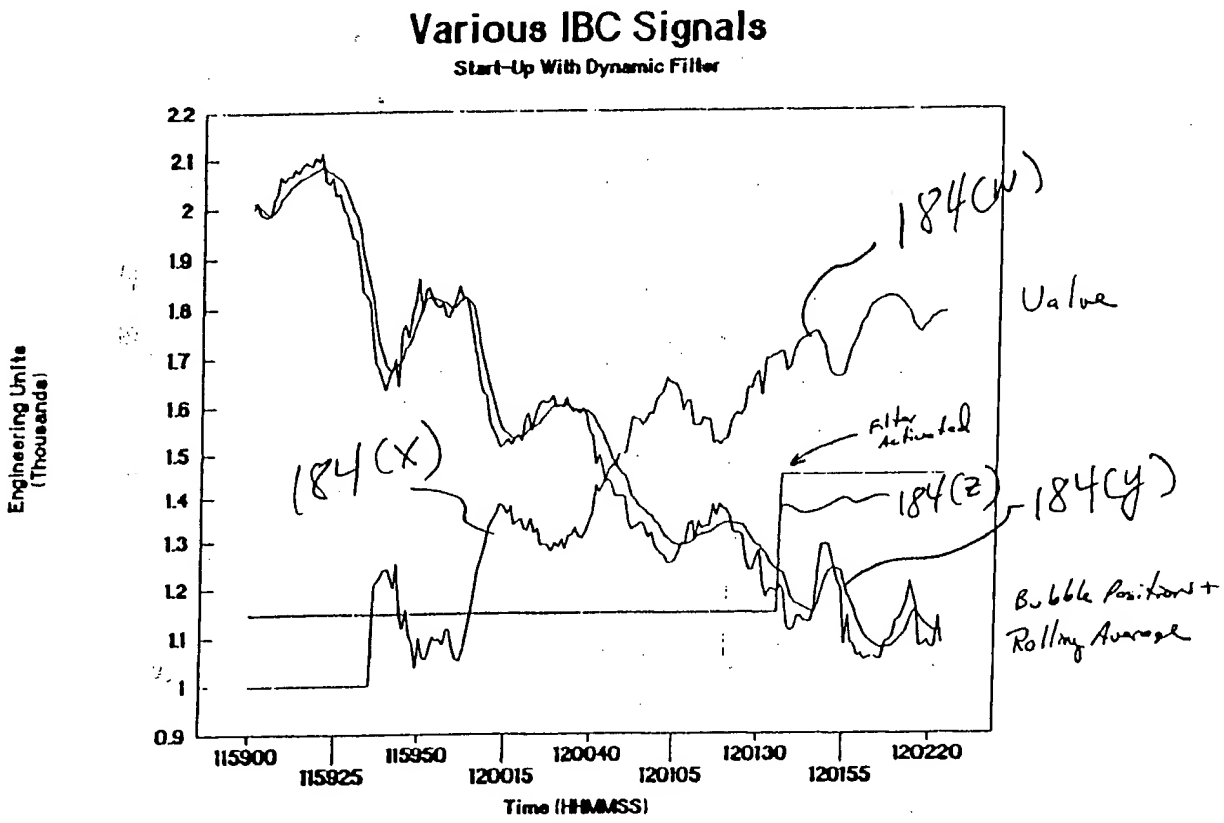

Various IBC Signals
Start-Up With Dynamic Filter
Engineering Units (Thousands)
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
115900
115925
115950
120015
120040
120105
120130
120155
120220
Time (HHMMSS)
184(W)
Value
184(X)
184(Z)
184(Y)
Bubble Position + Rolling Average

FIG 23G

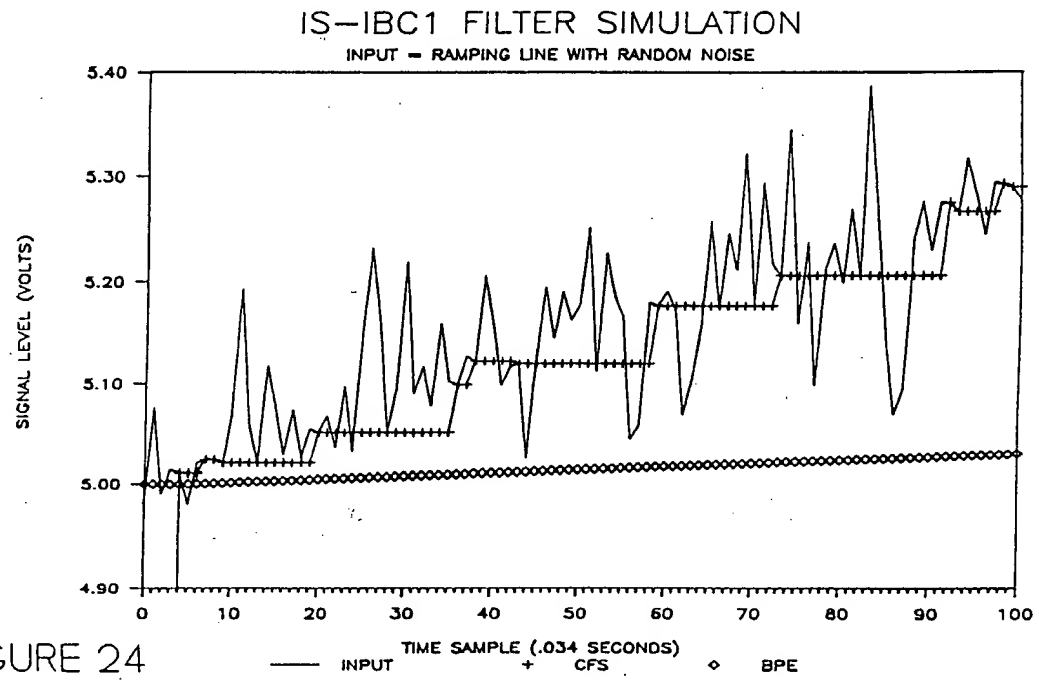

IS–IBC1 FILTER SIMULATION
INPUT = RAMPING LINE WITH RANDOM NOISE
SIGNAL LEVEL (VOLTS)
5.40
5.30
5.20
5.10
5.00
4.90
0
10
20
30
40
50
60
70
80
90
100
TIME SAMPLE (.034 SECONDS)
INPUT
CFS
BPE

FIGURE 24

FIGURE 25A

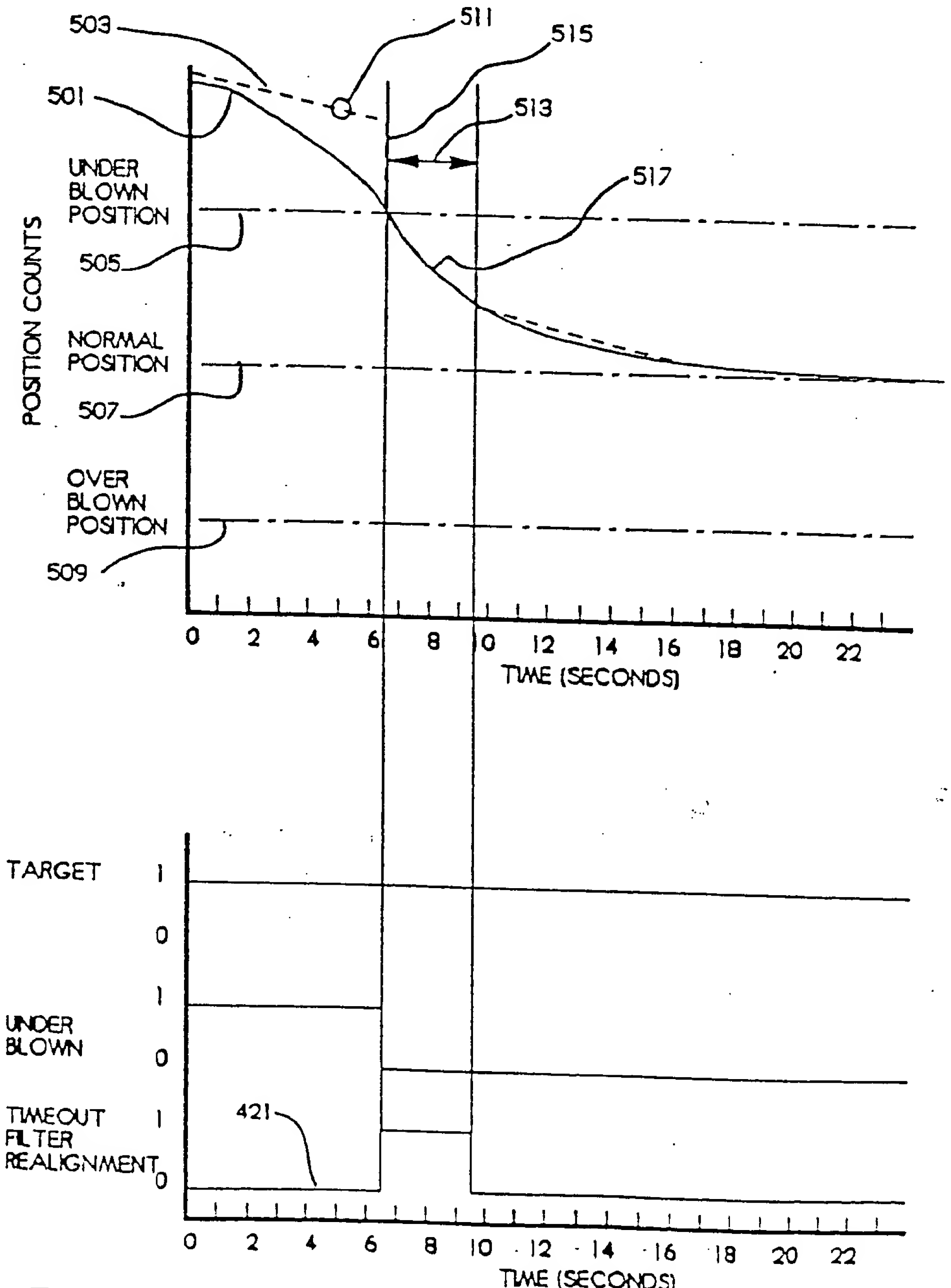


FIGURE 25B

FIGURE 26A

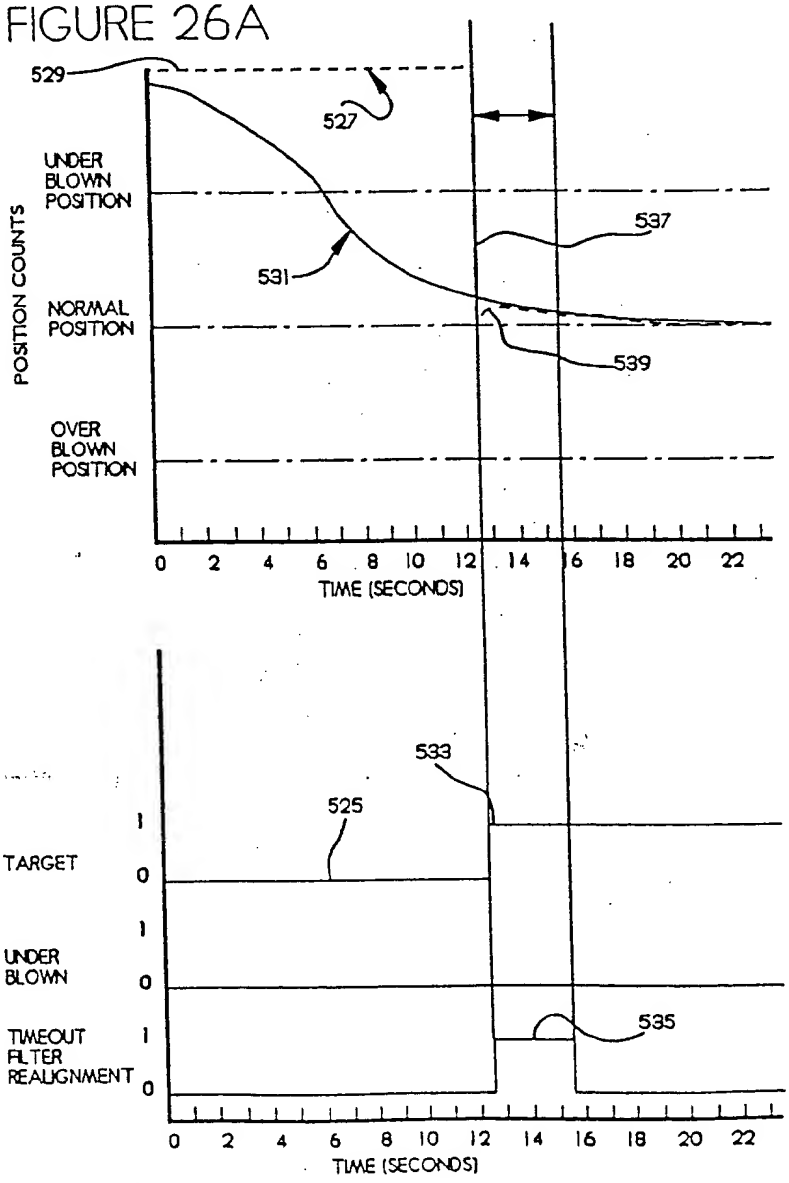


FIGURE 26B

FIGURE 27A

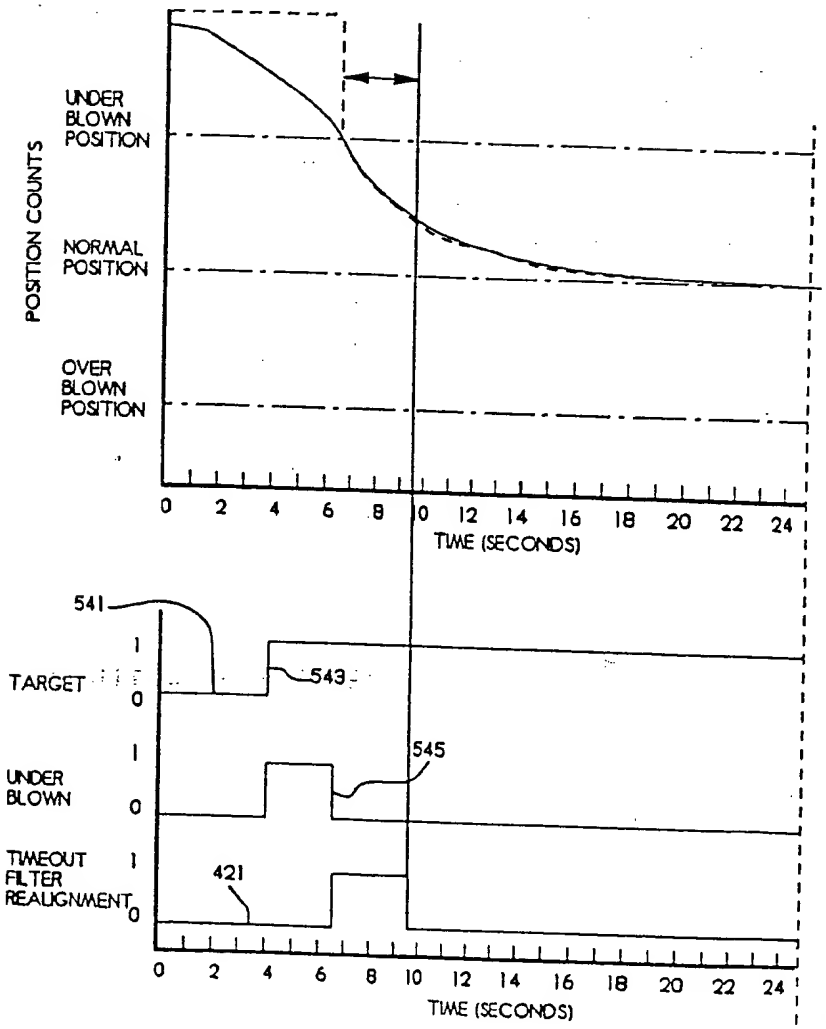


FIGURE 27B

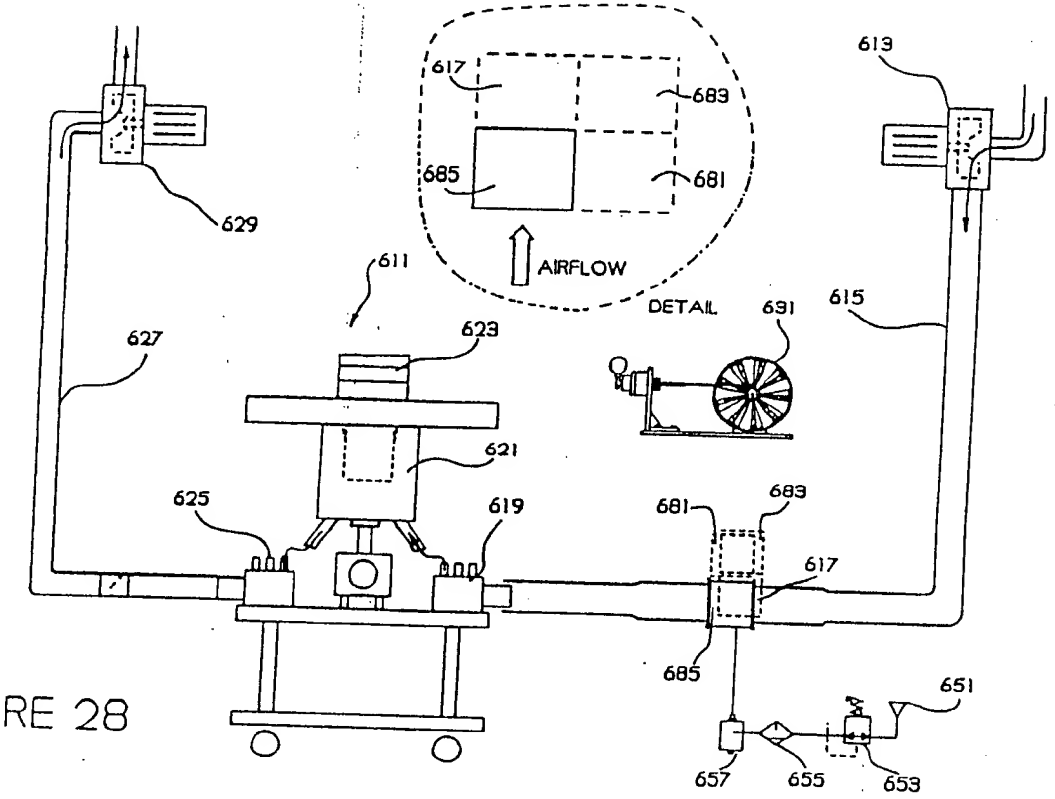

617
683
685
681
AIRFLOW
DETAIL
691
613
629
611
615
627
623
621
625
619
681
683
617
685
651
657
655
653

FIGURE 28

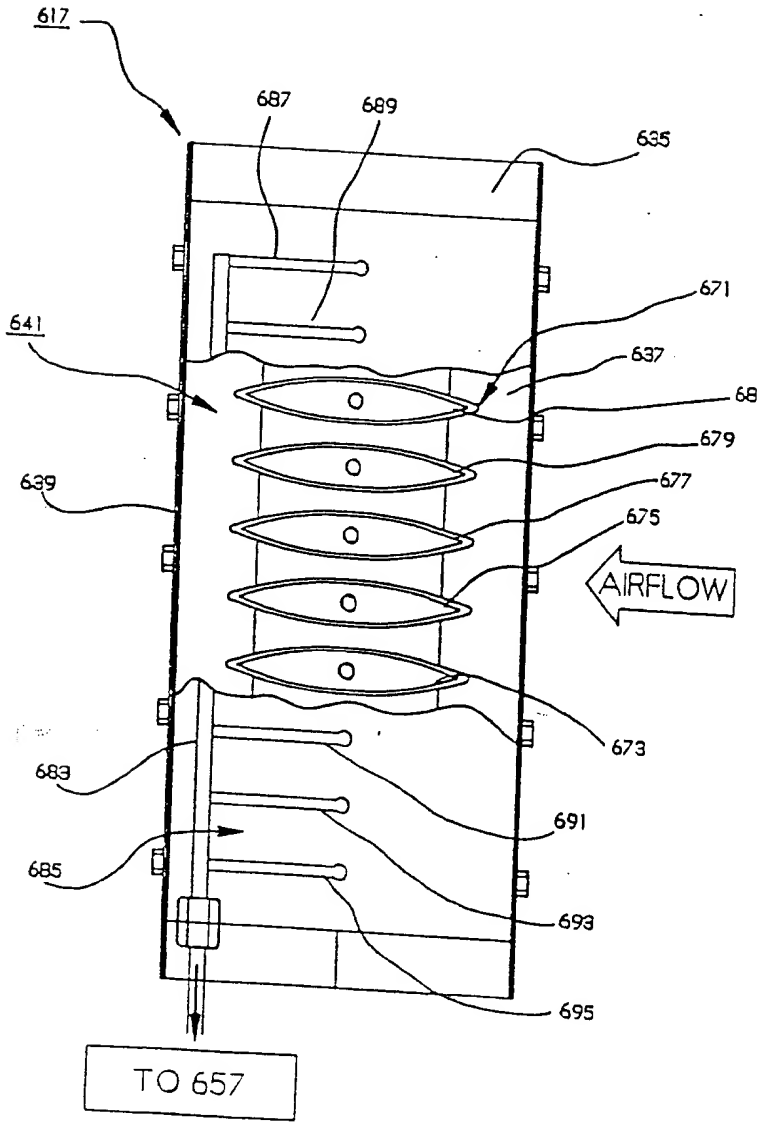


FIGURE 29

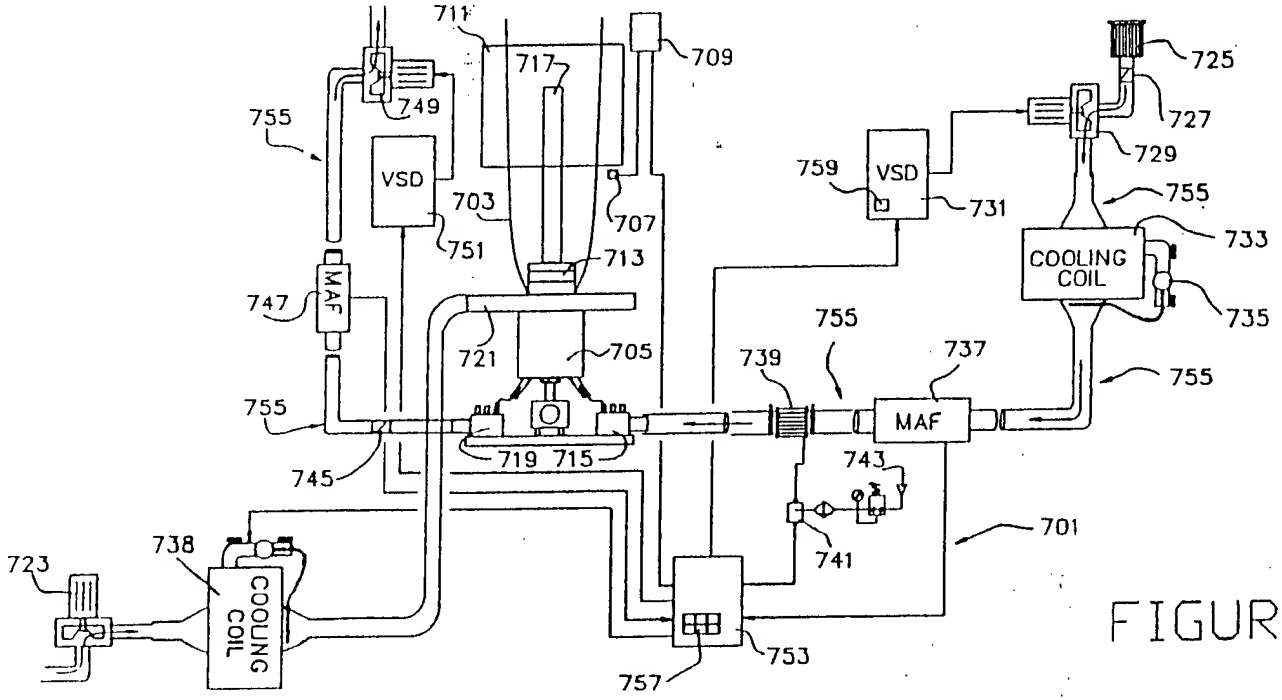

711
717
709
725
749
727
755
VSD
729
759
VSD
703
707
731
755
751
733
713
COOLING COIL
747
MAF
735
755
737
721
705
739
755
755
MAF
719
715
743
745
701
738
741
723
COOLING COIL
753
757

FIGURE 30

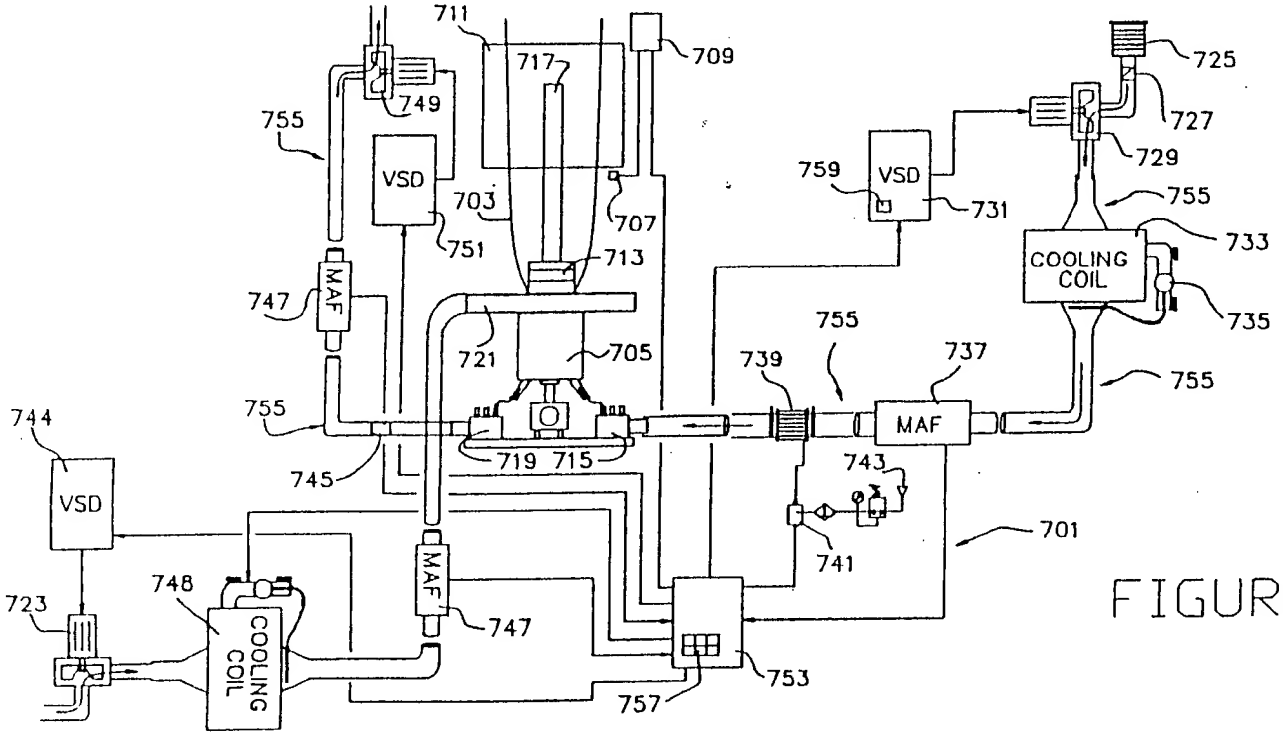

711
709
717
725
749
727
755
VSD
729
759
VSD
703
707
731
755
751
713
733
COOLING COIL
747
MAF
735
755
721
705
739
737
755
744
755
MAF
745
719
715
743
VSD
701
741
748
MAF
723
747
COOLING COIL
753
757

FIGURE 31

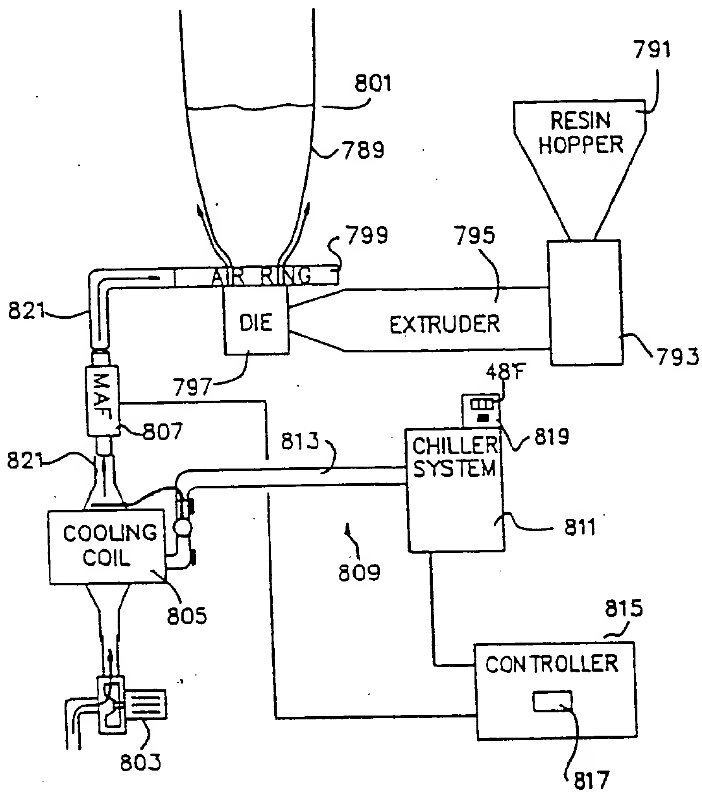

791
801
RESIN
HOPPER
789
799
795
AIR RING
821
DIE
EXTRUDER
793
797
48°F
MAF
807
813
819
821
CHILLER
SYSTEM
COOLING
COIL
811
809
805
815
CONTROLLER
803
817

FIGURE 32

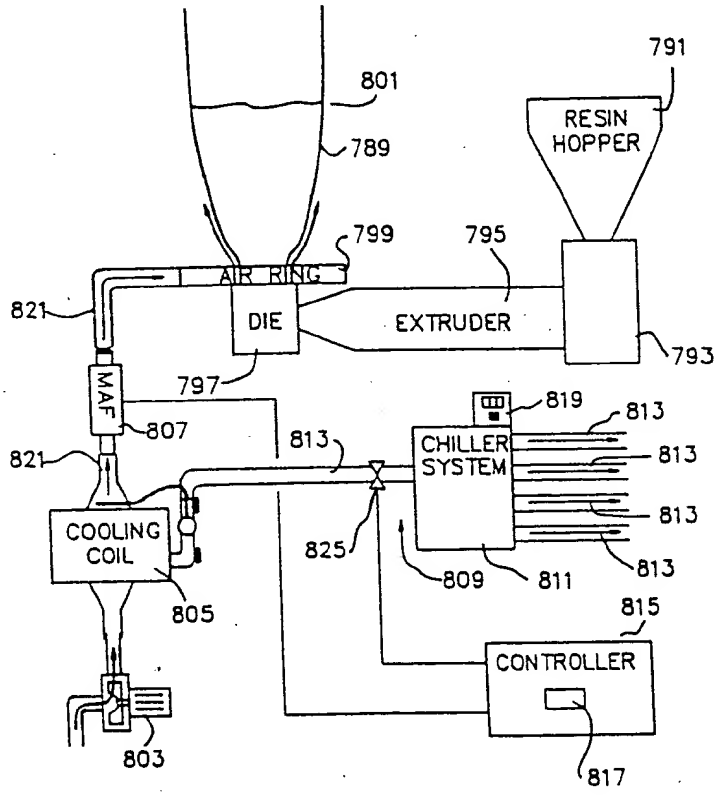

791
801
RESIN HOPPER
789
799
795
AIR RING
821
DIE
EXTRUDER
793
797
MAF
807
819
813
813
821
CHILLER SYSTEM
813
813
COOLING COIL
825
809
811
813
805
815
CONTROLLER
803
817

FIGURE 33

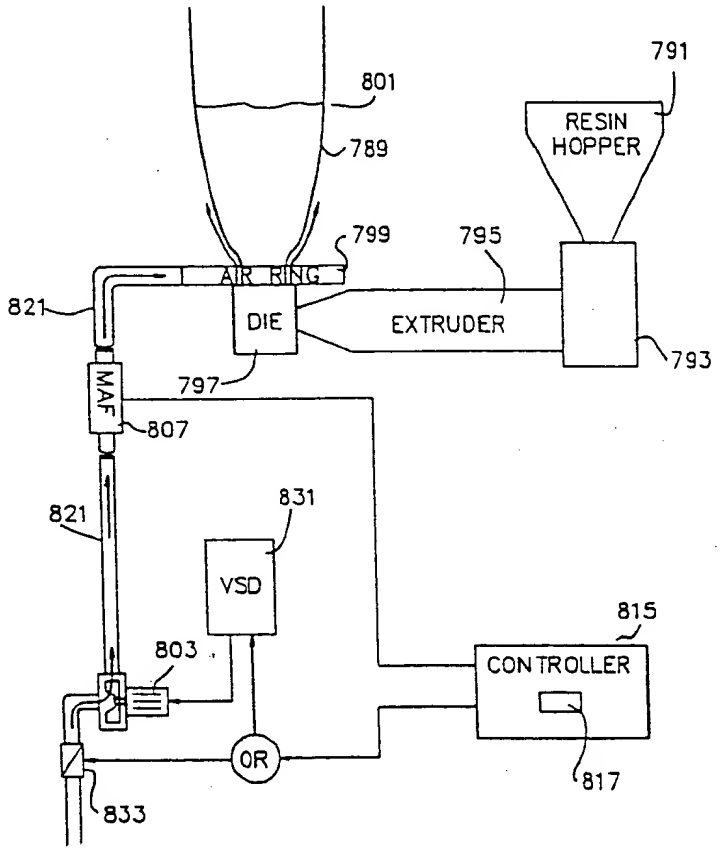
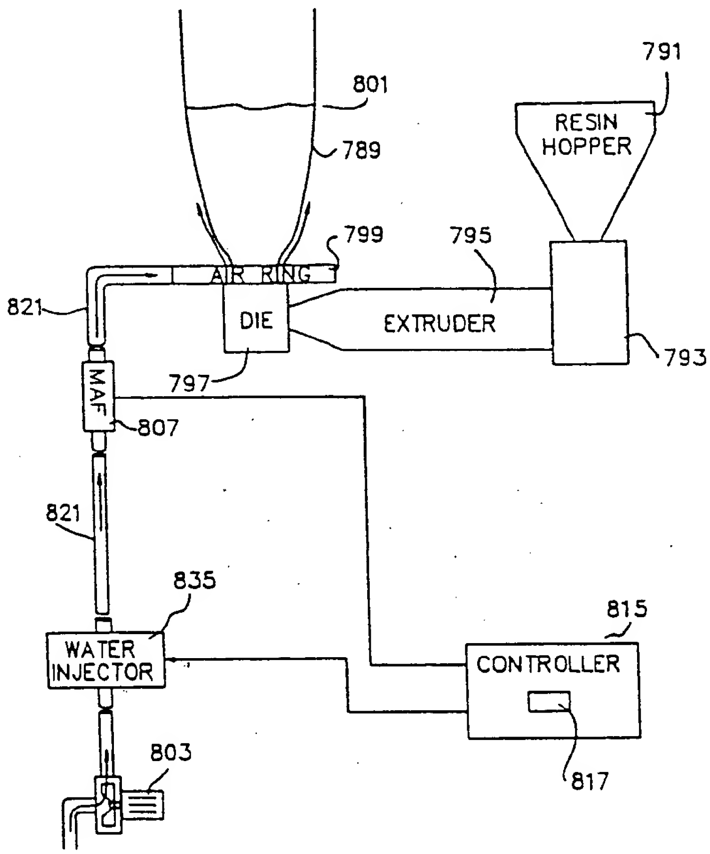

791
801
RESIN HOPPER
789
799
795
AIR RING
821
DIE
EXTRUDER
793
797
MAF
807
831
821
VSD
815
803
CONTROLLER
OR
817
833

FIGURE 34



801
789
799
AIR RING
795
791
RESIN HOPPER
821
DIE
EXTRUDER
793
797
MAF
807
821
835
WATER INJECTOR
815
CONTROLLER
803
817

FIGURE 35

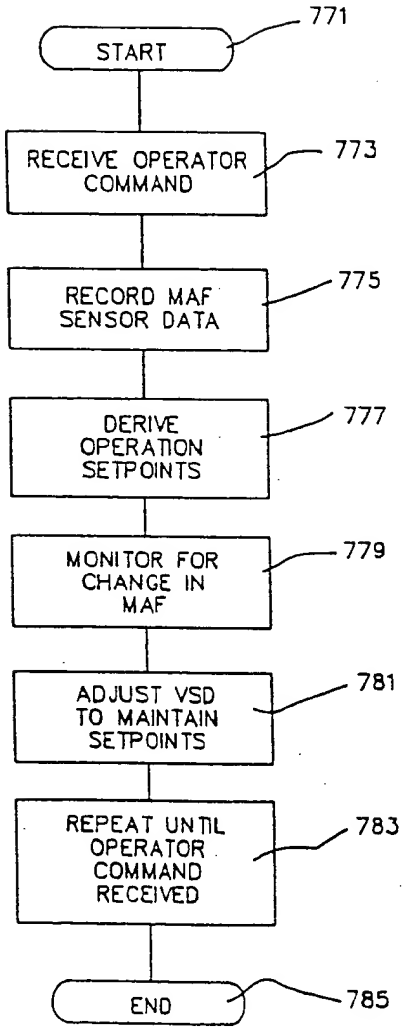


FIGURE 36

Client ____________
File No. ____________
Sheet No. _____ of _____

PATENT SKETCH FORM

Attorney ____________

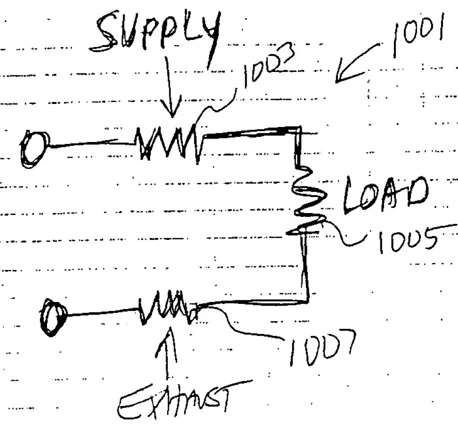


FIGURE 37A
(PRIOR ART)

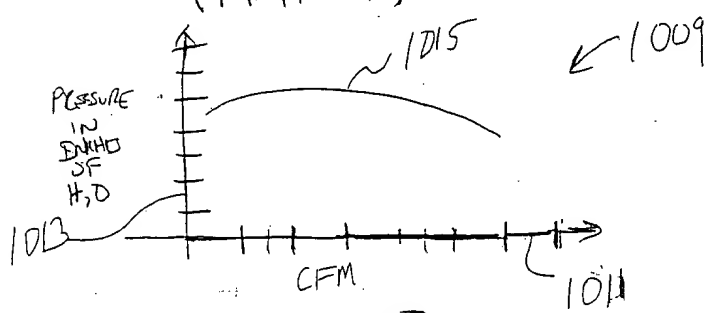


FIGURE 37B
(PRIOR ART)

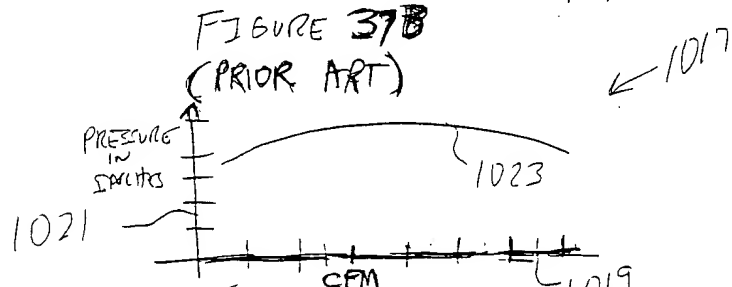


FIGURE 37C
(PRIOR ART)

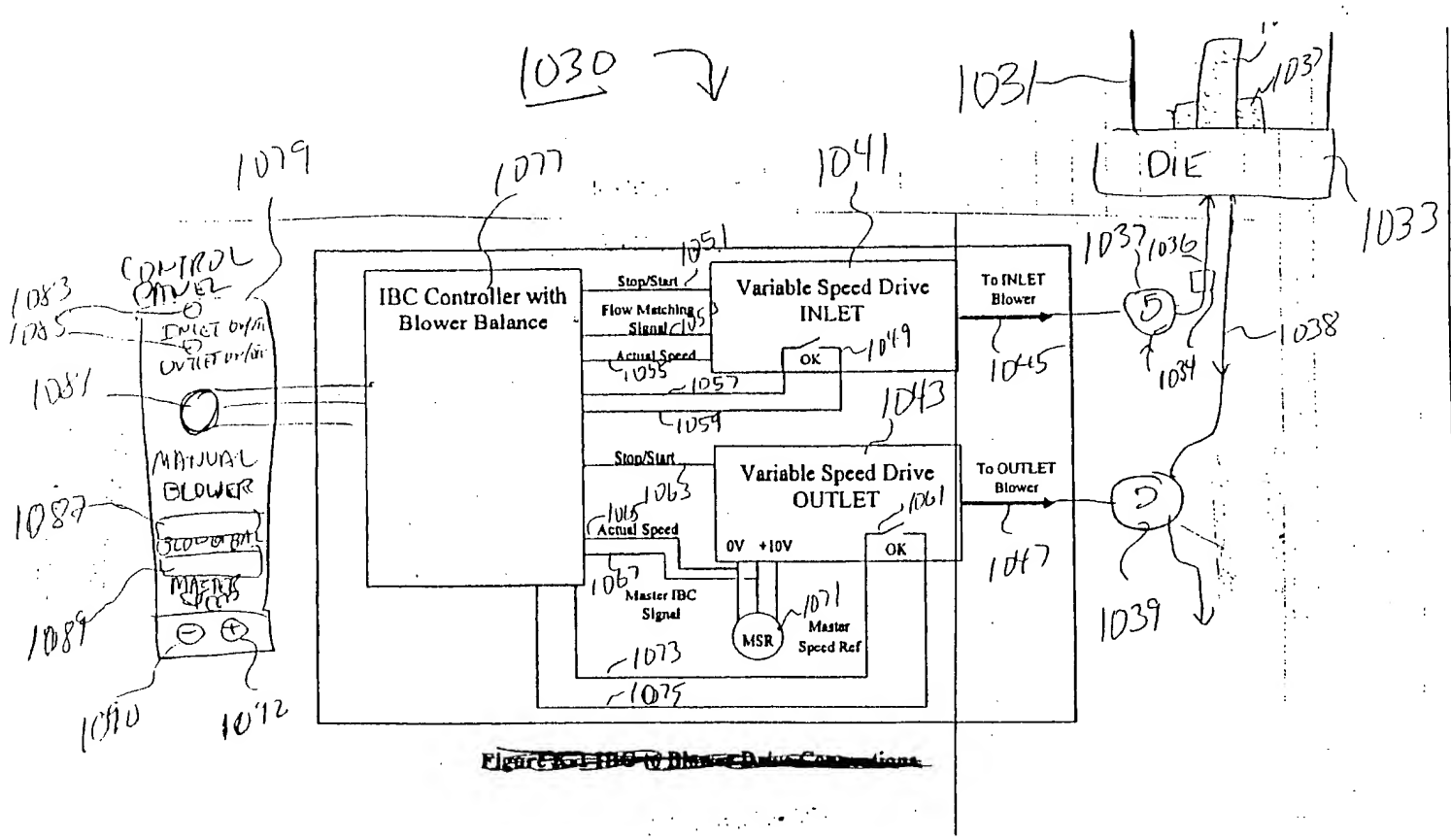


Figure 6a-1 IBC to Blower Drive Connections

FIGURE 37D

Attorney _____

PATENT SKETCH FORM

ATTORNEYS

Client _____
File No. _____
Sheet No. _____ of _____

Client
File No.
Sheet No. ___ of ___

PATENT SKETCH FORM

Attorney

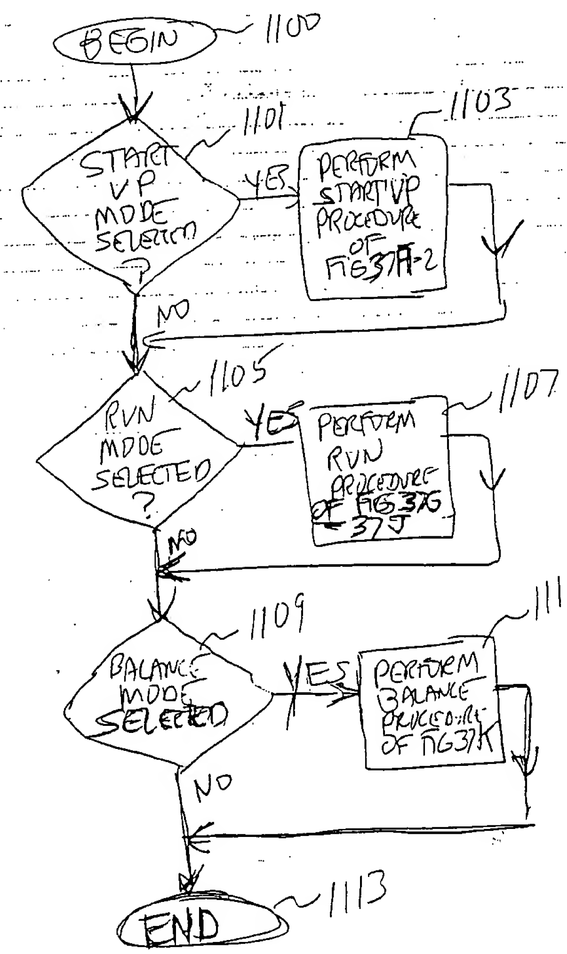


FIGURE 37 E

10971080 "081602860

Client: _____
File No. _____
Sheet No. ____ of ____

PATENT SKETCH FORM

Attorney _____

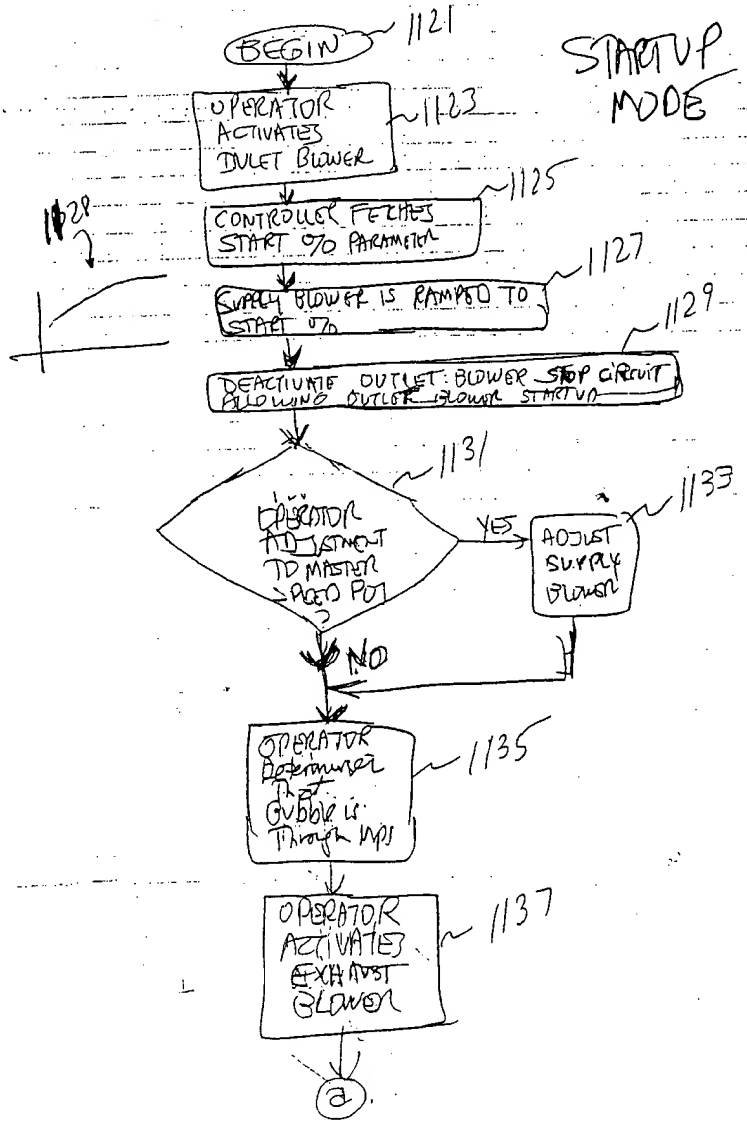


FIG 37 F1

Client _____
File No. _____
Sheet No. ____ of ____

PATENT SKETCH FORM

Attorney _____

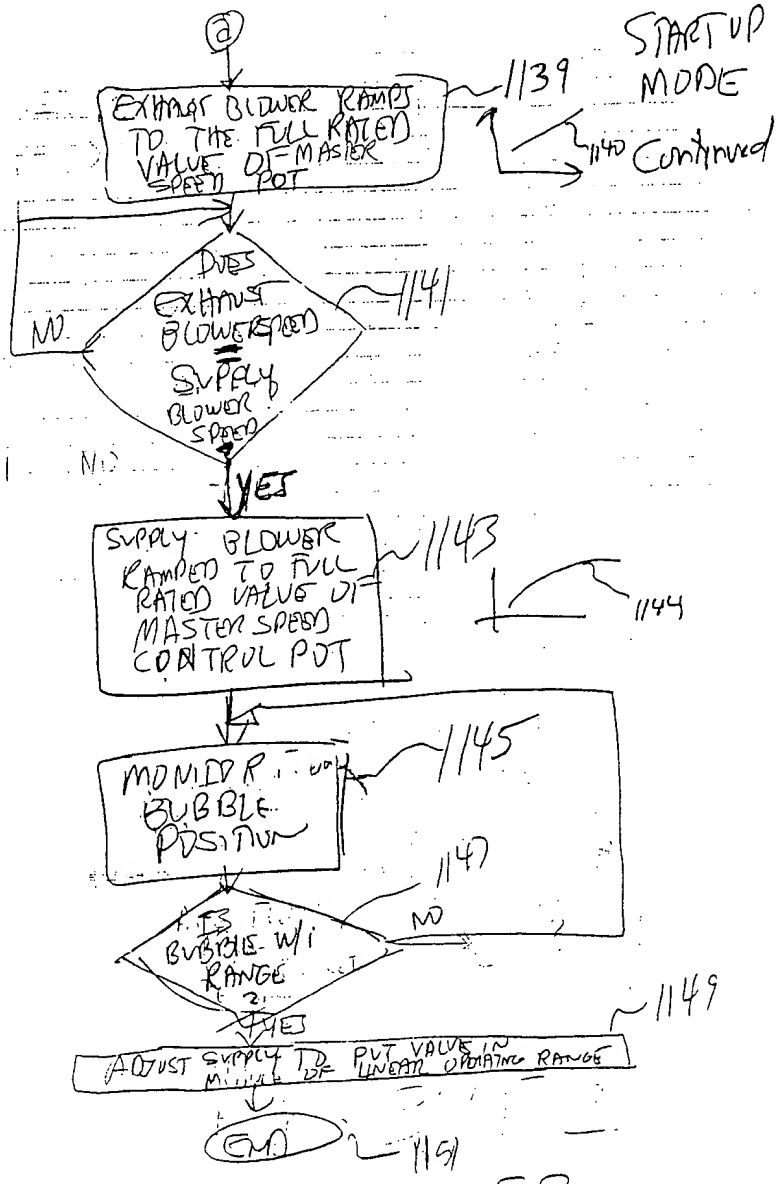


FIGURE 37 F2

PATENT SKETCH FORM

Attorney ______

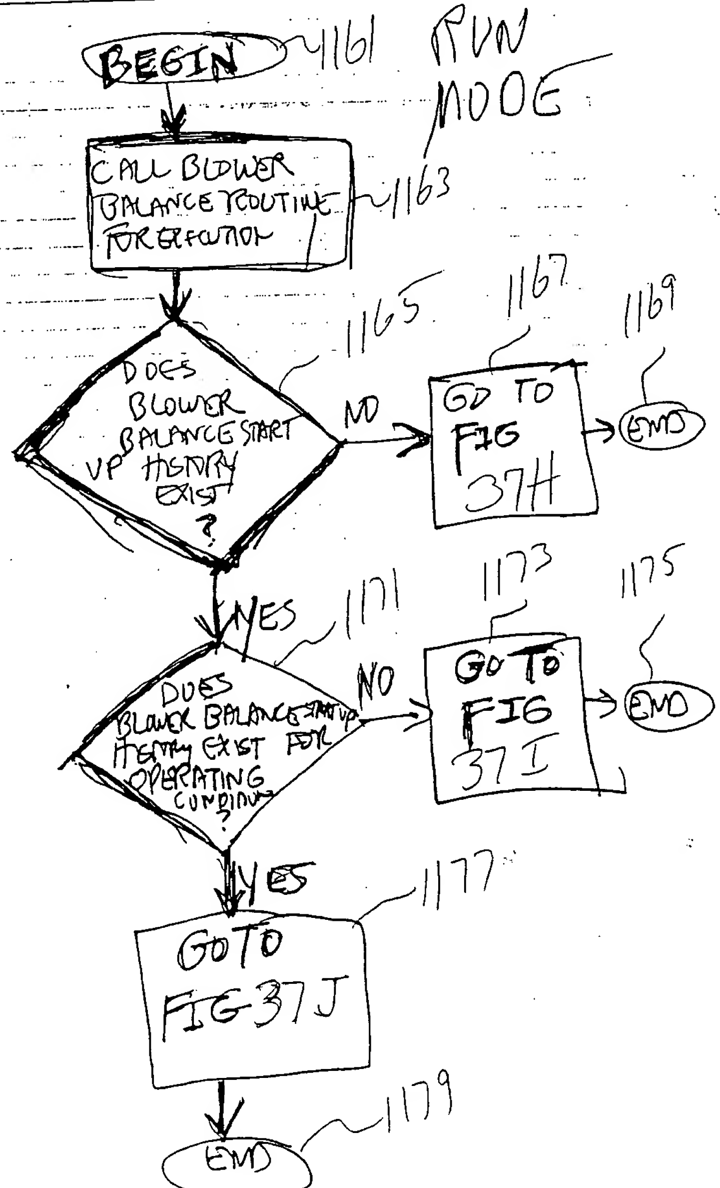


FIGURE 37G

ATTORNEYS

Client _____
File No. _____
Sheet No. ____ of ____

PATENT SKETCH FORM

Attorney _____

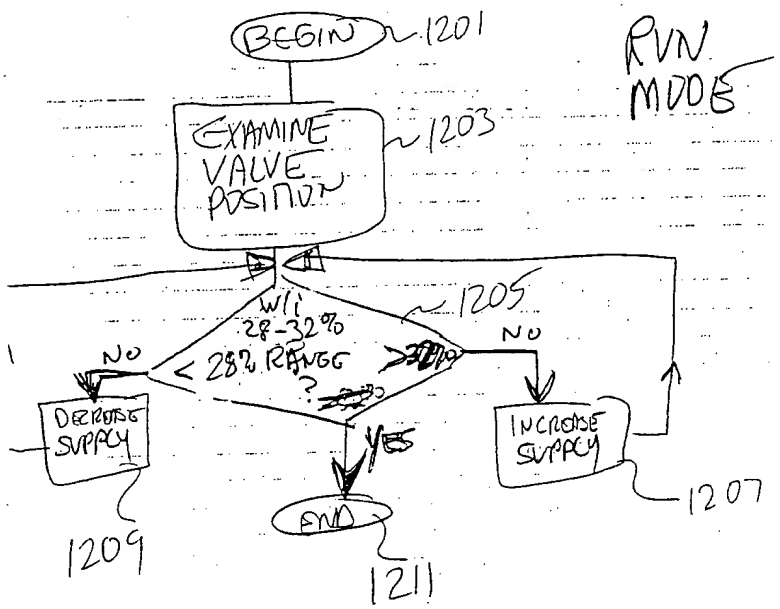


FIGURE 3TH

FELDMAN, BRADLEY, GUNTER & DILLON
ATTORNEYS

Client ______
File No. ______
Sheet No. ____ of ____

PATENT SKETCH FORM

Attorney ______

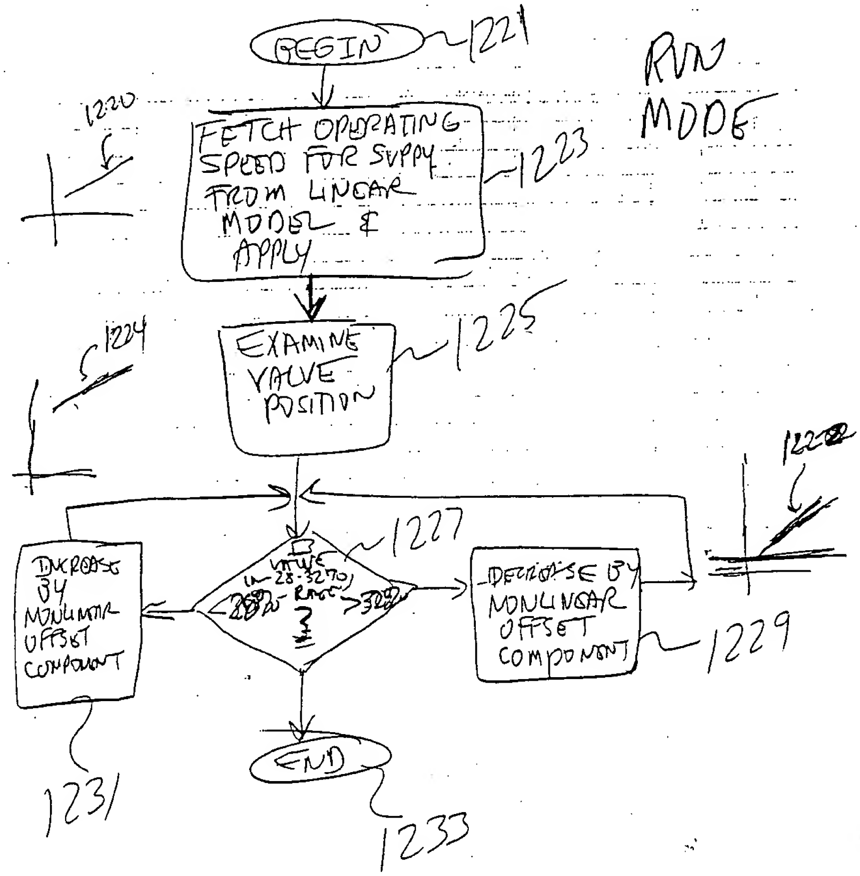


FIGURE 37I

Client ____________
File No. ____________
Sheet No. _____ of _____

PATENT SKETCH FORM

Attorney ____________

RUN MODE

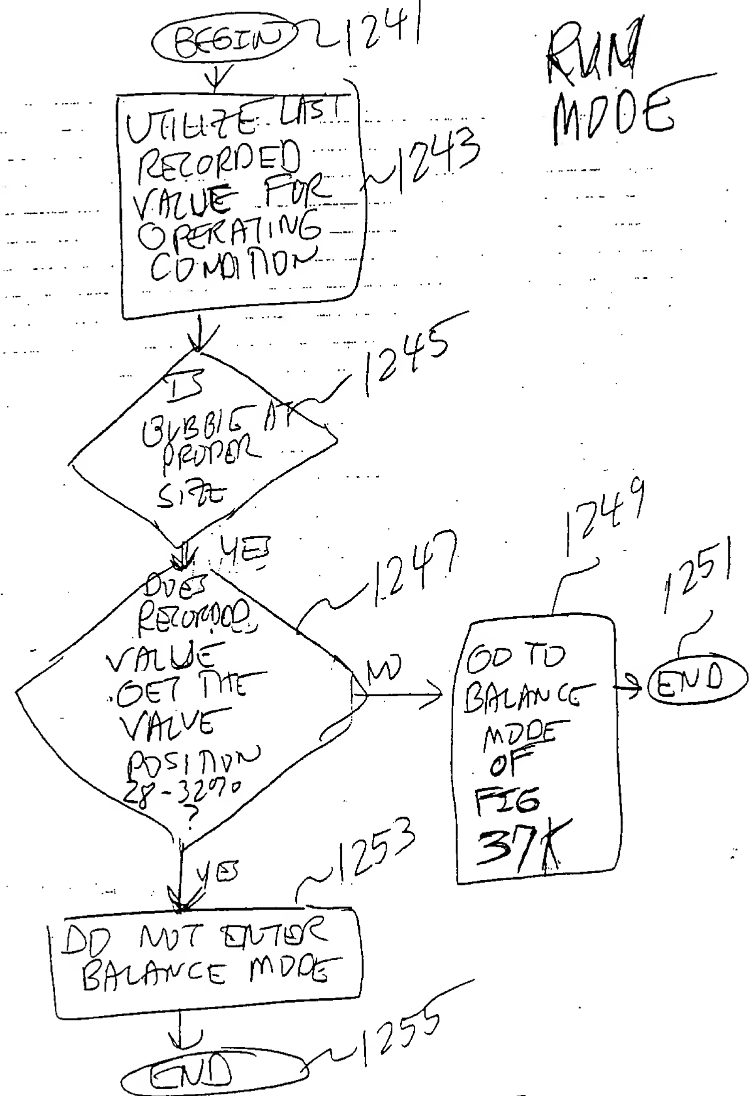


FIGURE 37J

FELDMAN, BRADLEY, GUNTER & DILLON
ATTORNEYS

Client
File No.
Sheet No. ___ of ___

PATENT SKETCH FORM

Attorney

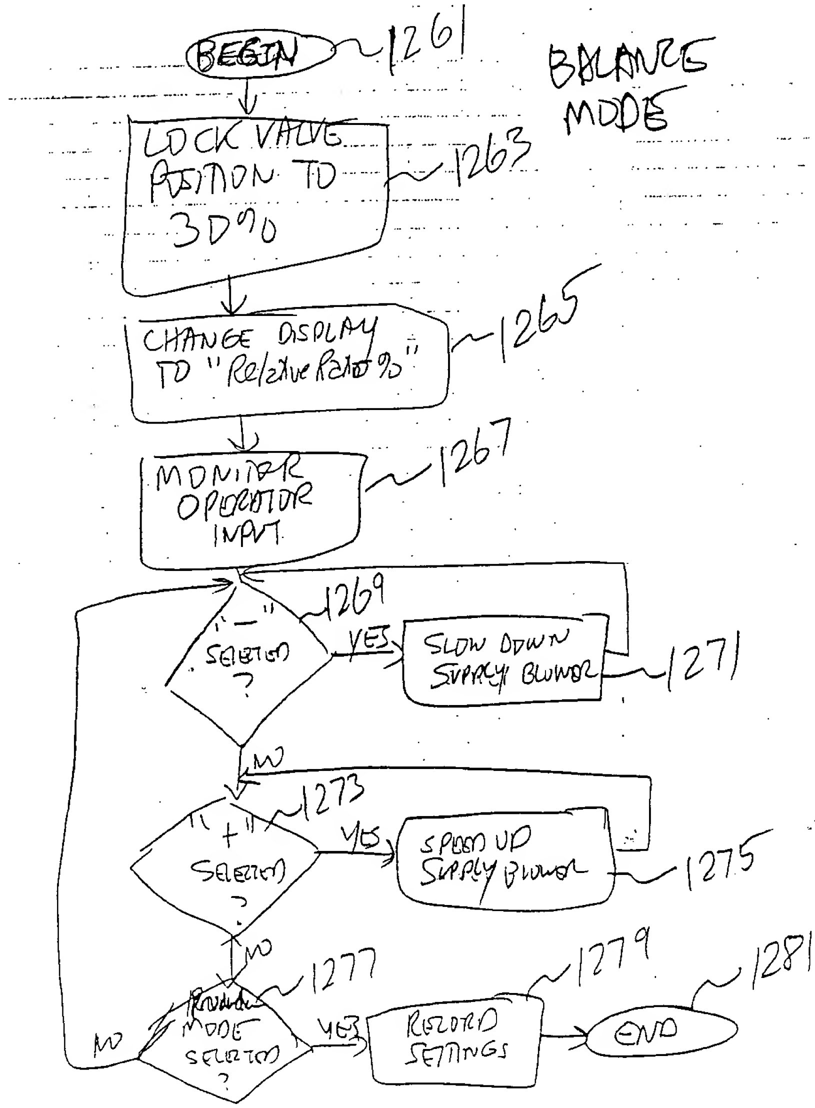


FIGURE 37K

ATTORNEYS

Client ____________
File No. ____________
Sheet No. _____ of _____

PATENT SKETCH FORM

Attorney ____________

1301 MASTER SPEED POT SETTING	1303 (SUPPLY SPEED)	1305 REFERENCE VOLTS
A %	AC	BD
B %	AG	BF
⋮		
Z %	AM	BX

FIGURE 37L

FELSMAN, BRADLEY, GUNTER & DILLON
ATTORNEYS

Client ____________
File No. ____________
Sheet No. _____ of _____

PATENT SKETCH FORM

Attorney ____________

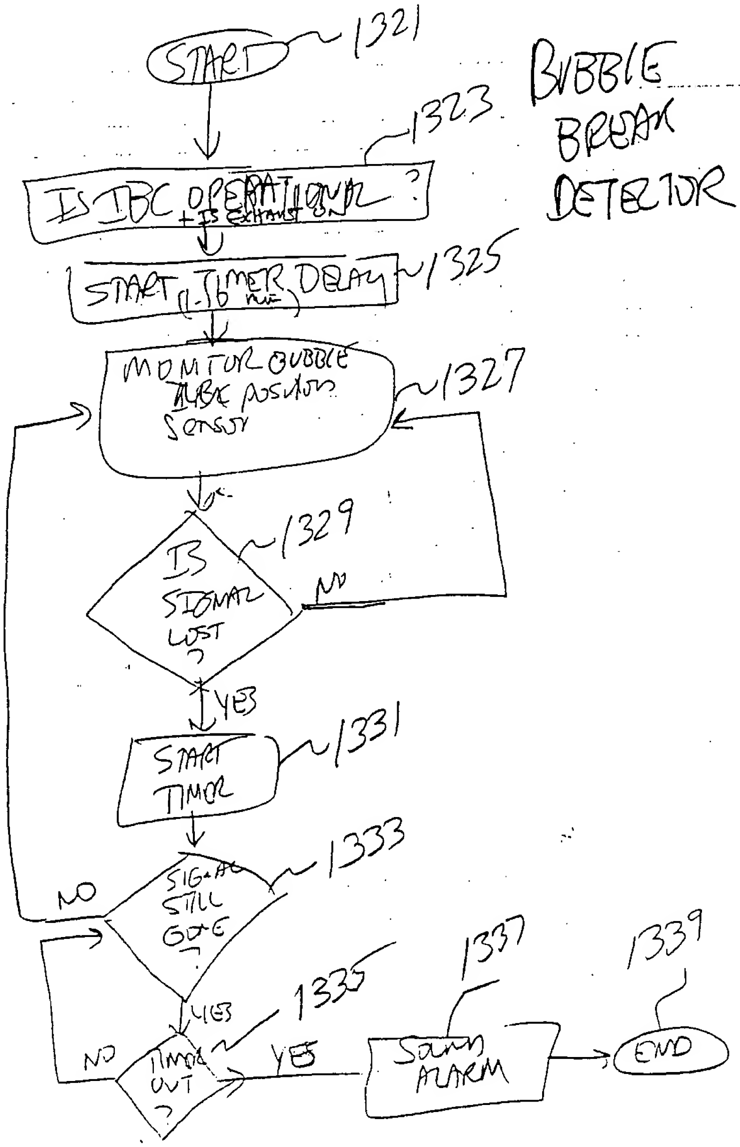


FIGURE 37M

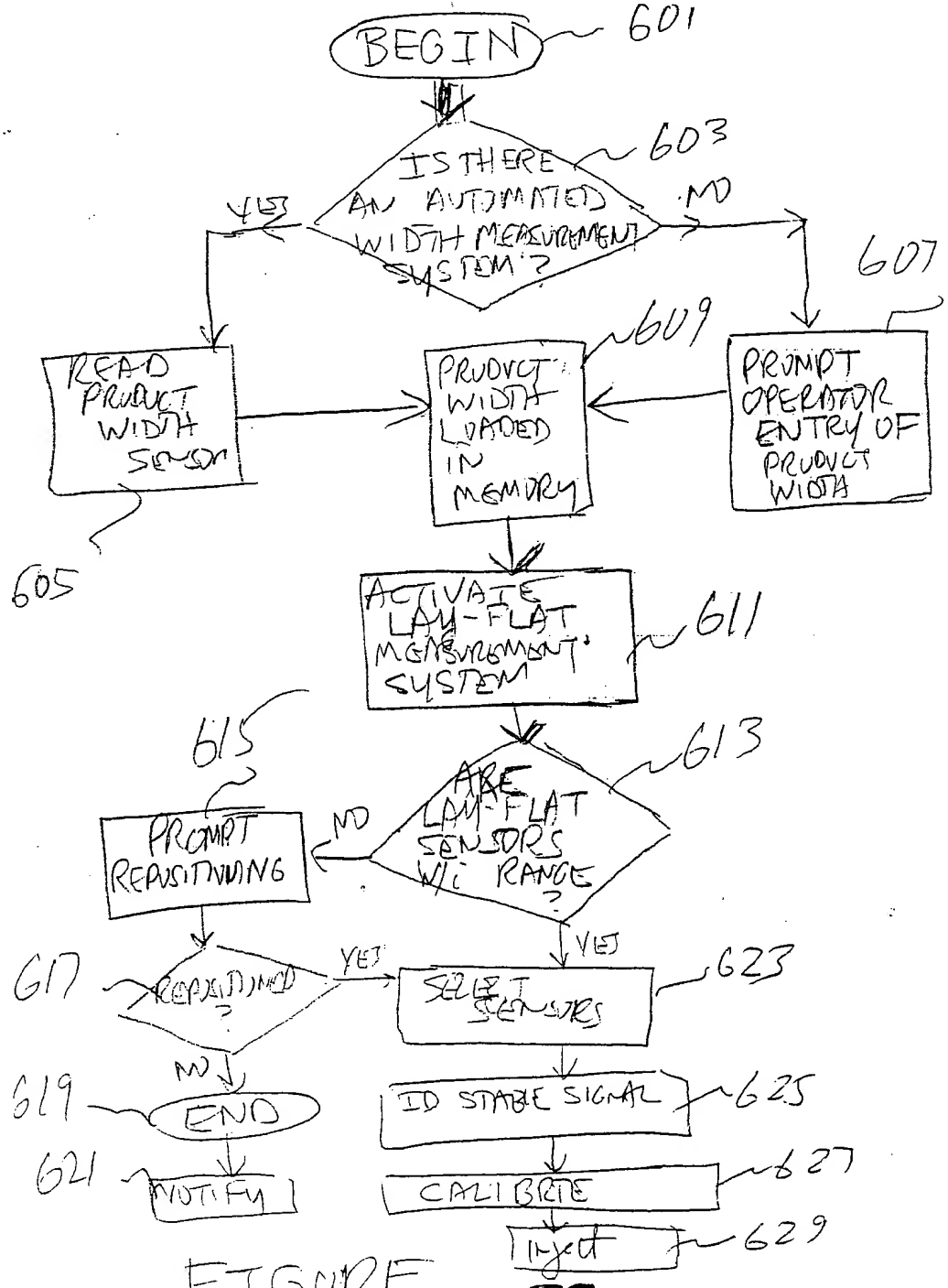

BEGIN
601
IS THERE AN AUTOMATED WIDTH MEASUREMENT SYSTEM?
603
YES
NO
READ PRODUCT WIDTH SENSOR
605
PRODUCT WIDTH LOADED IN MEMORY
609
PROMPT OPERATOR ENTRY OF PRODUCT WIDTH
607
ACTIVATE LAY-FLAT MEASUREMENT SYSTEM
611
ARE LAY-FLAT SENSORS W/I RANGE?
613
NO
PROMPT REPOSITIONING
615
YES
REPOSITIONED?
617
YES
NO
END
619
NOTIFY
621
SELECT SENSORS
623
ID STABLE SIGNAL
625
CALIBRATE
627
Inject
629

FIGURE 38

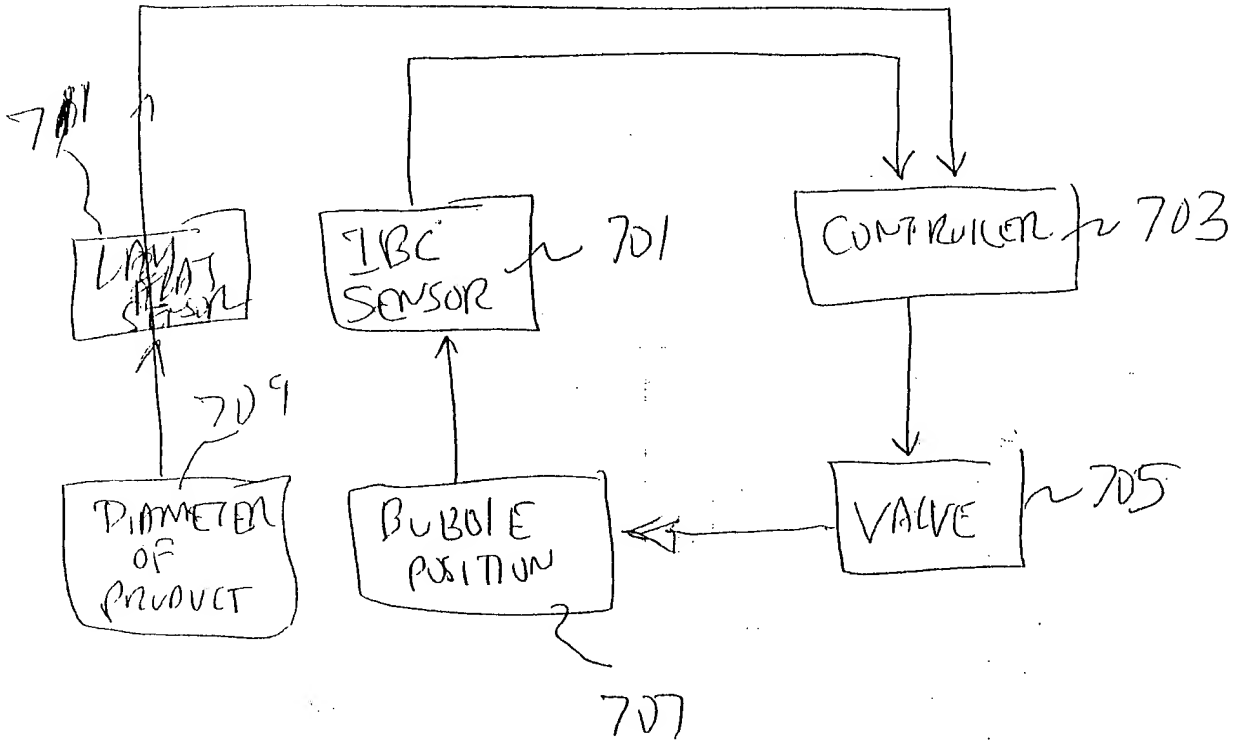

701
LASER SENSOR
IBC SENSOR
701
CONTROLLER
703
709
DIAMETER OF PRODUCT
BUBBLE POSITION
VALVE
705
707

FIGURE 39

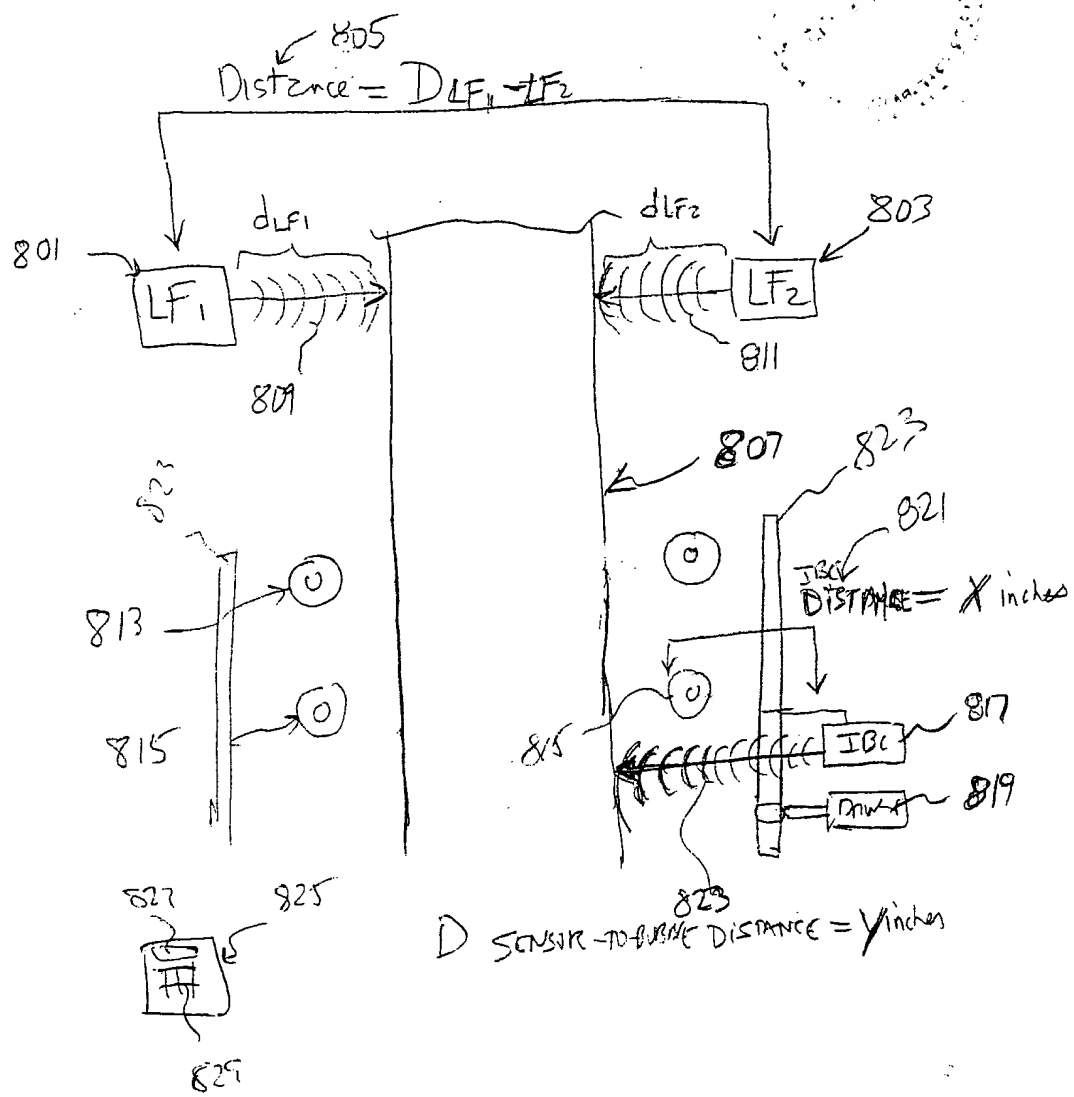


FIGURE 40

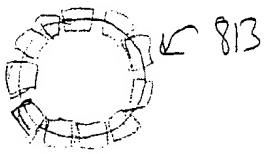


FIGURE 41

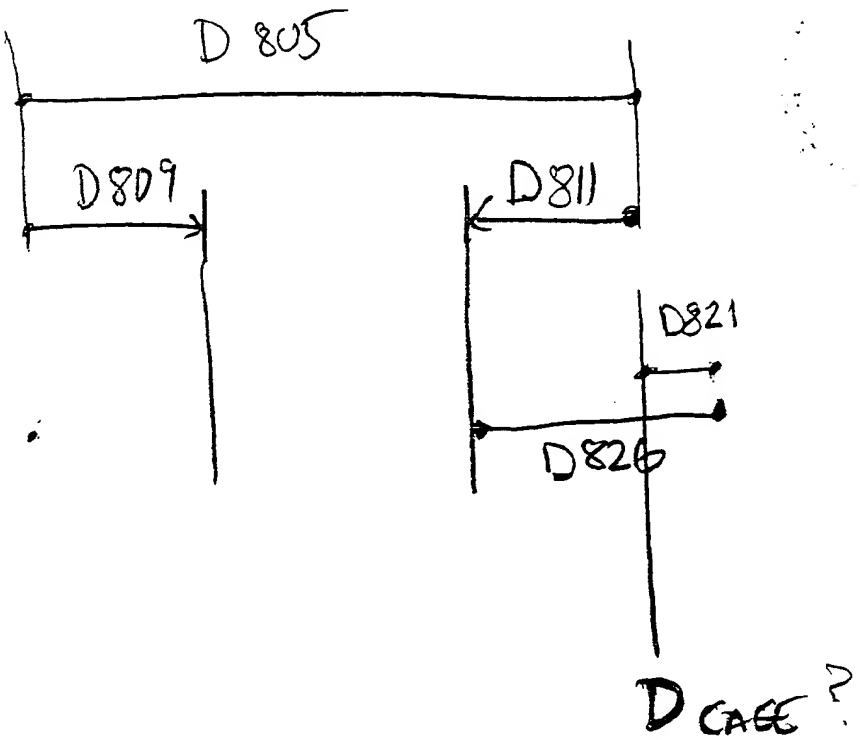


FIG 4

$$D_{CAGE} = (D805 - D809 - D811) + (D826 - D821)$$

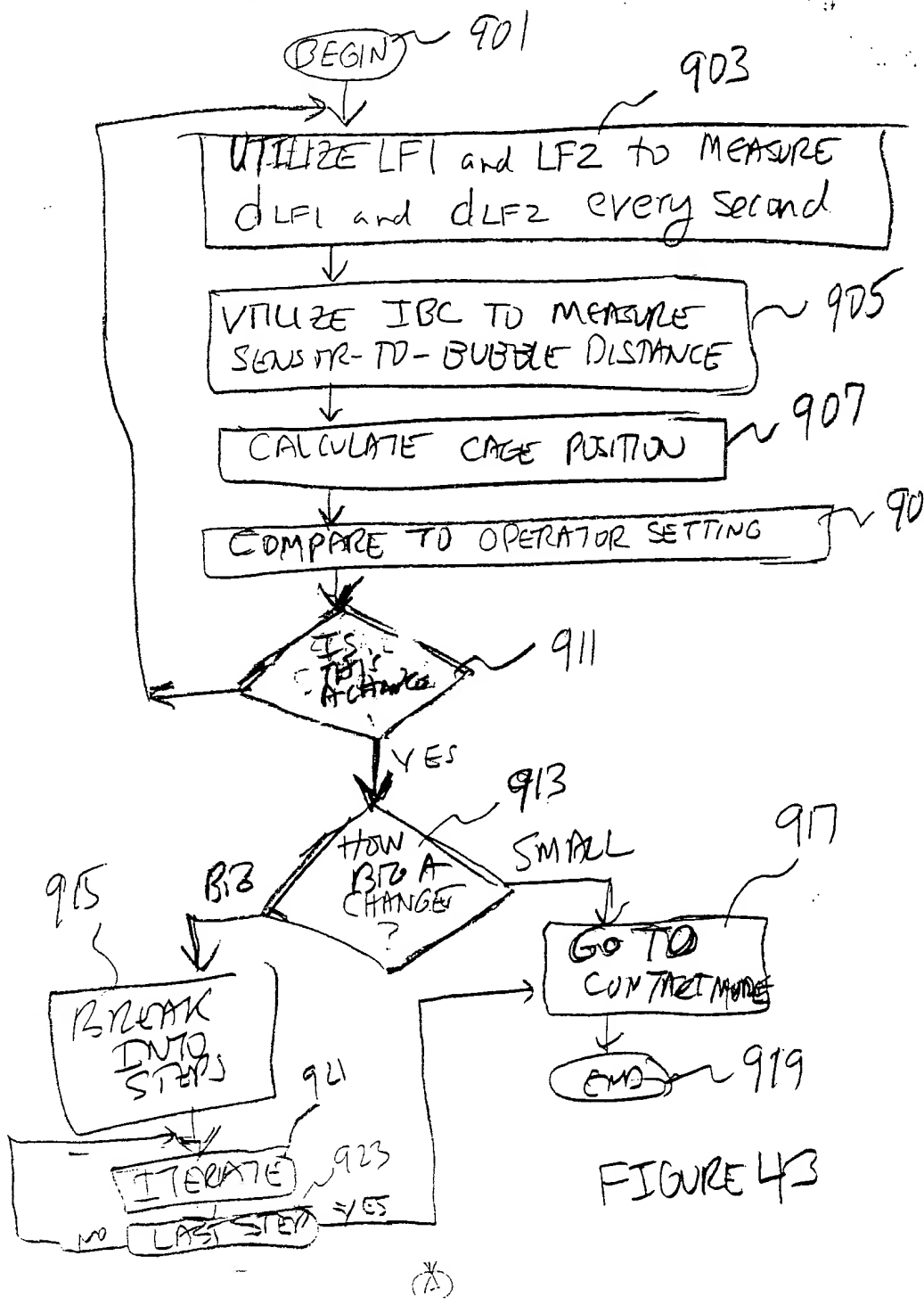

BEGIN
901
903
UTILIZE LF1 and LF2 to MEASURE dLF1 and dLF2 every second
VTILIZE IBC TO MEASURE SENSOR-TO-BUBBLE DISTANCE
905
CALCULATE CAGE POSITION
907
COMPARE TO OPERATOR SETTING
909
IS THERE A CHANGE
911
YES
913
HOW BIG A CHANGE ?
SMALL
917
BIG
915
BREAK INTO STEPS
GO TO CONTACT MARKER
921
ITERATE
923
LAST STEP
YES
NO
END
919

FIGURE 43

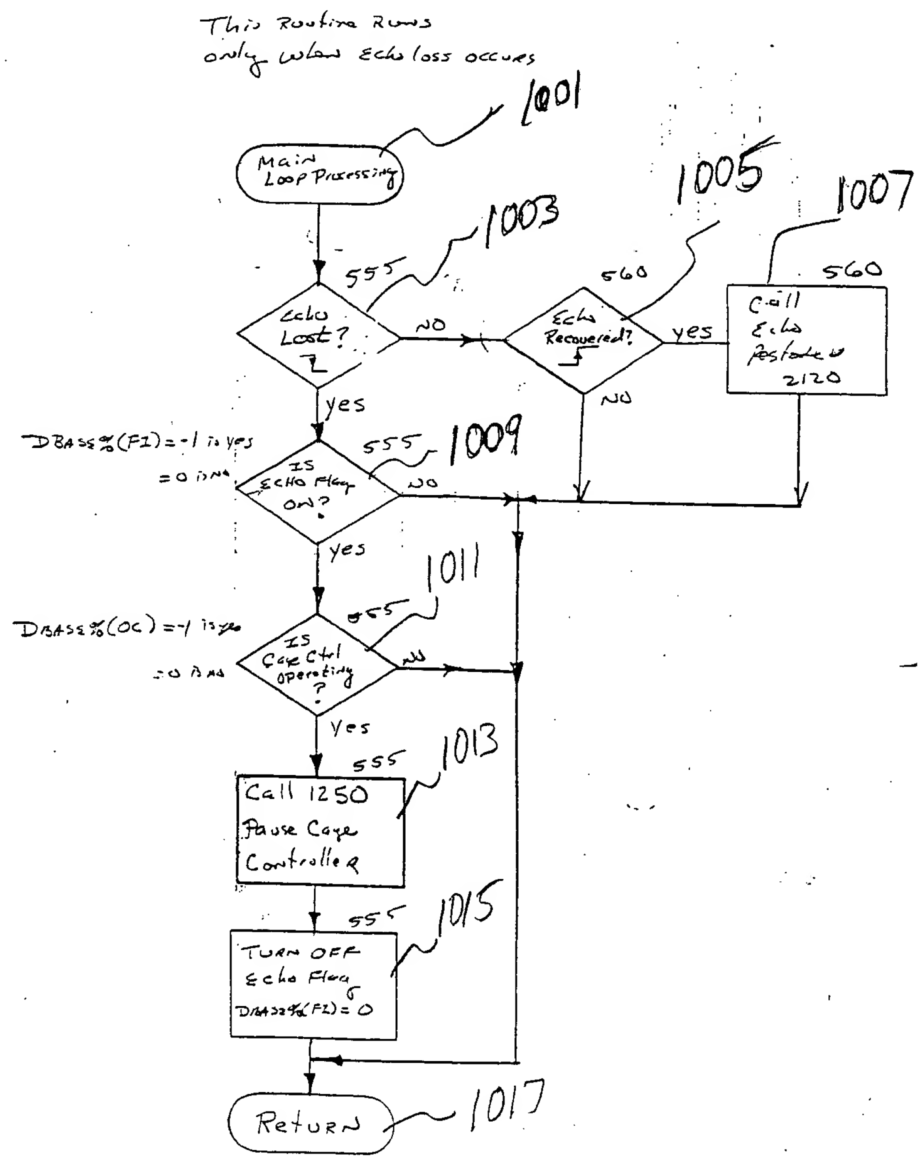

This Routine Runs
only when Echo loss occurs
1001
Main Loop Processing
1003
555
Echo Lost?
NO
yes
1005
560
Echo Recovered?
yes
NO
1007
560
Call Echo Restore
2120
DBASE%(F1) = -1 is yes
= 0 is no
555
1009
IS Echo Flag ON?
NO
yes
1011
DBASE%(OC) = -1 is yes
= 0 is no
555
IS Cage Ctrl operating?
NO
yes
555
1013
Call 1250
Pause Cage Controller
555
1015
TURN OFF Echo Flag
DBASE%(F1) = 0
Return
1017

FIGURE 44A

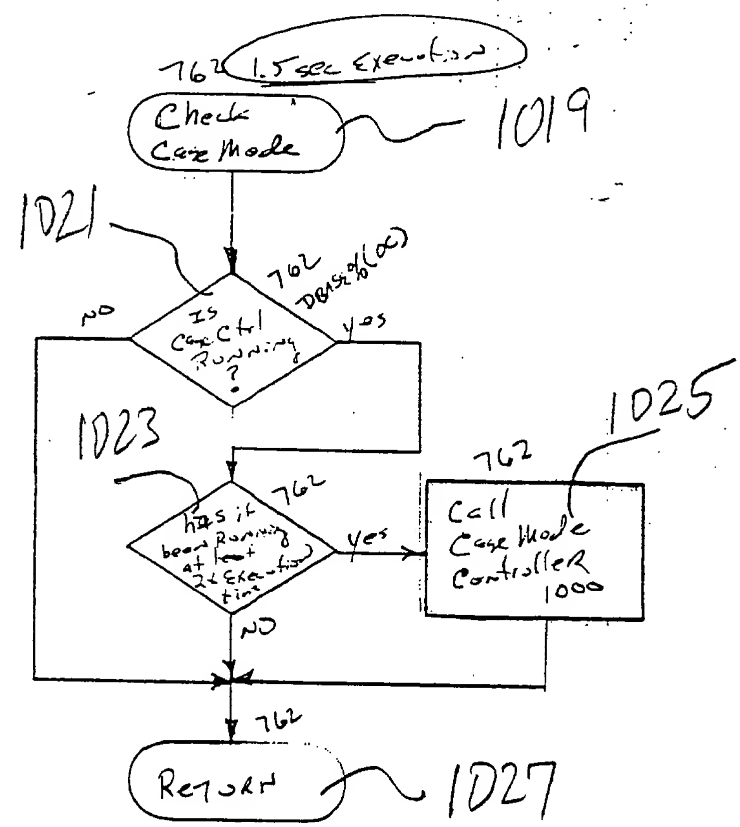


FIGURE 44B

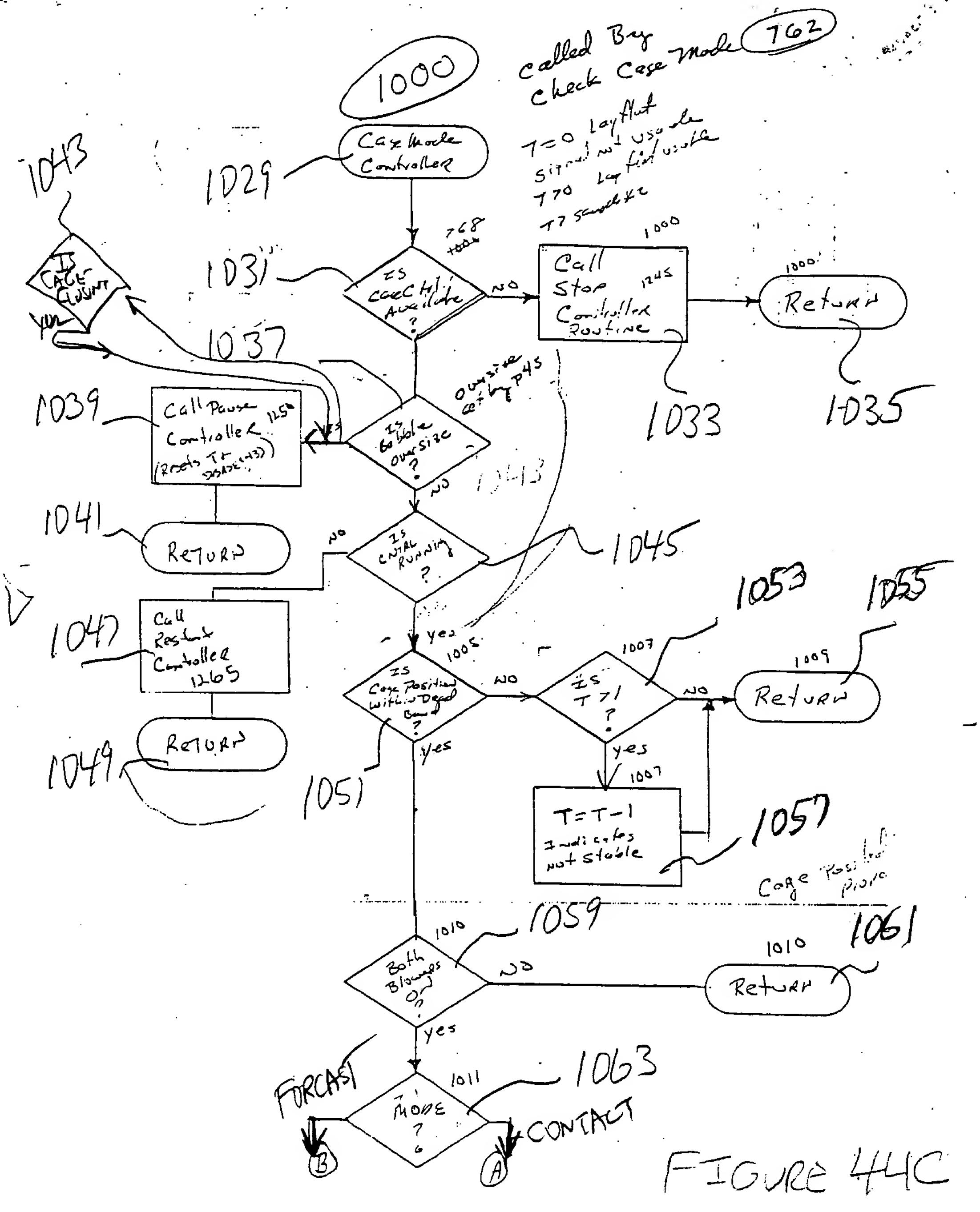

1000
Called By
Check Case Mode 762
Case Mode Controller
1029
1031
Is
1033
1035
Call
Stop
Controller
Routine
1245
Return
1043
Is
Case
Count
yes
1037
1039
Call Pause
Controller
1250
Is
Bobble
Oversize
?
yes
no
1041
Return
1045
Is
Cntrl
Running
?
no
yes
1047
Call
Restart
Controller
1265
1049
Return
1051
Is
Cage Position
within Dead
Band
?
1053
Is
T>1
?
1055
Return
yes
1057
T=T-1
Indicates
not stable
1059
Both
Blowups
On
?
no
1061
Return
1063
Mode
?
FORCAST
CONTACT
B
A

FIGURE 44C

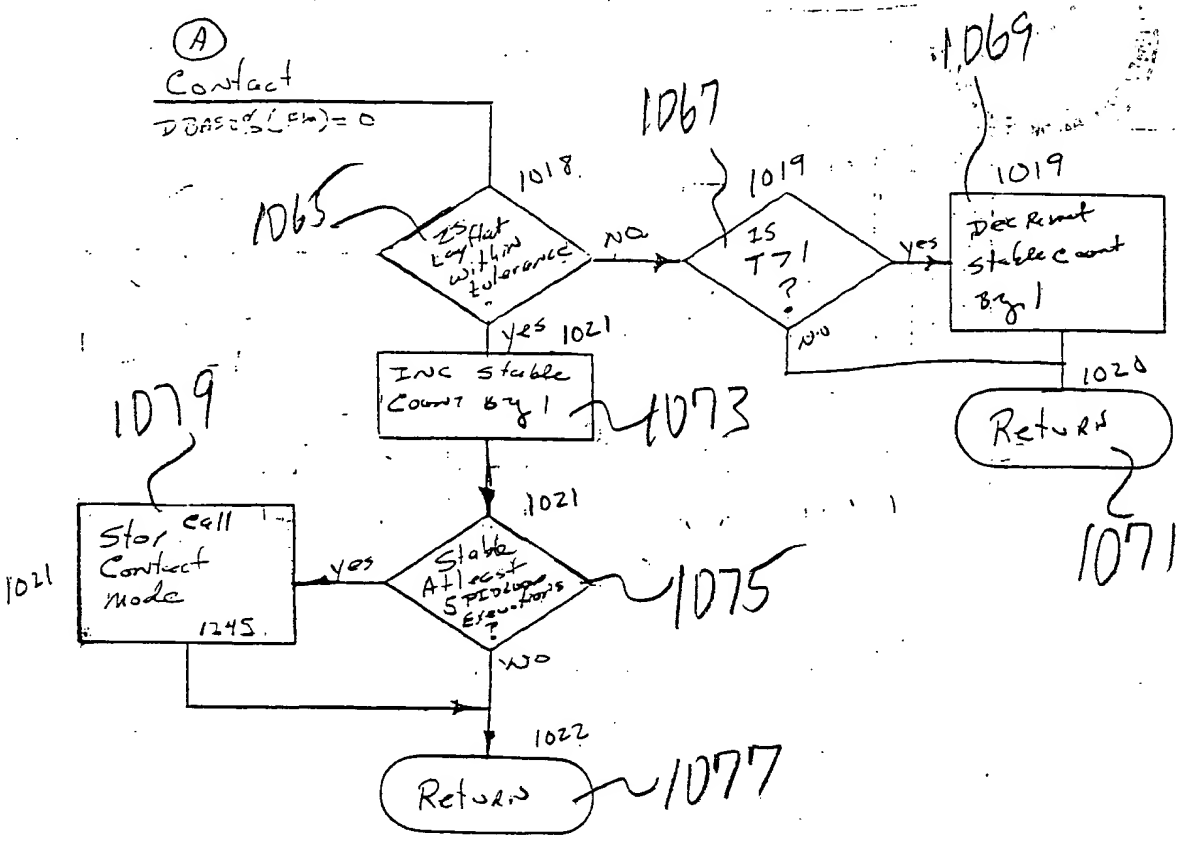


FIGURE 44D

CONTACT MODE

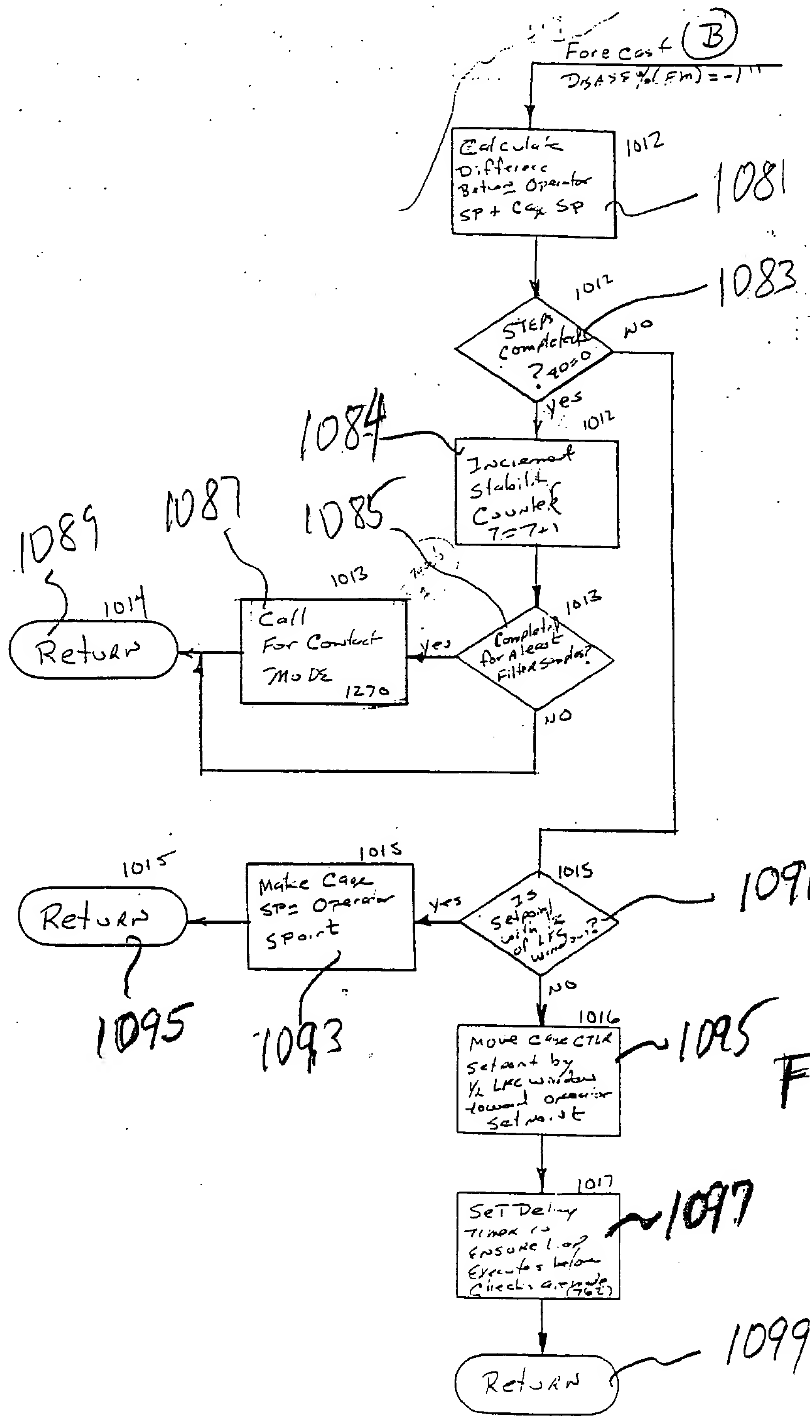


FIGURE 44E FORCAST MODE

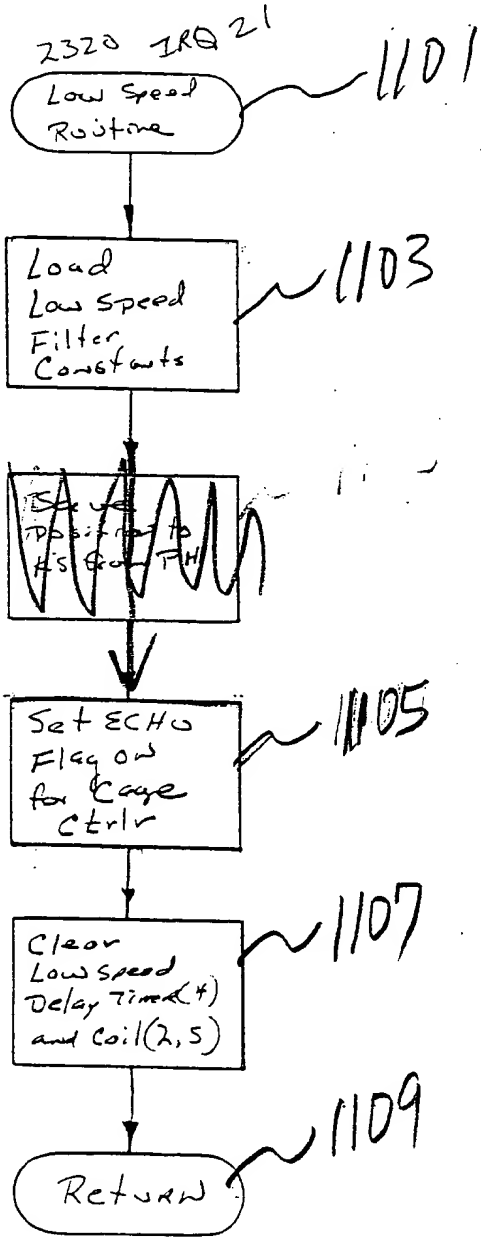

2320 IRQ 21
Low Speed Routine
1101
Load Low Speed Filter Constants
1103
Set ECHO Flag on for Cage Ctrlr
1105
Clear Low Speed Delay Timer(4) and Coil(2,5)
1107
Return
1109

FIGURE 44F

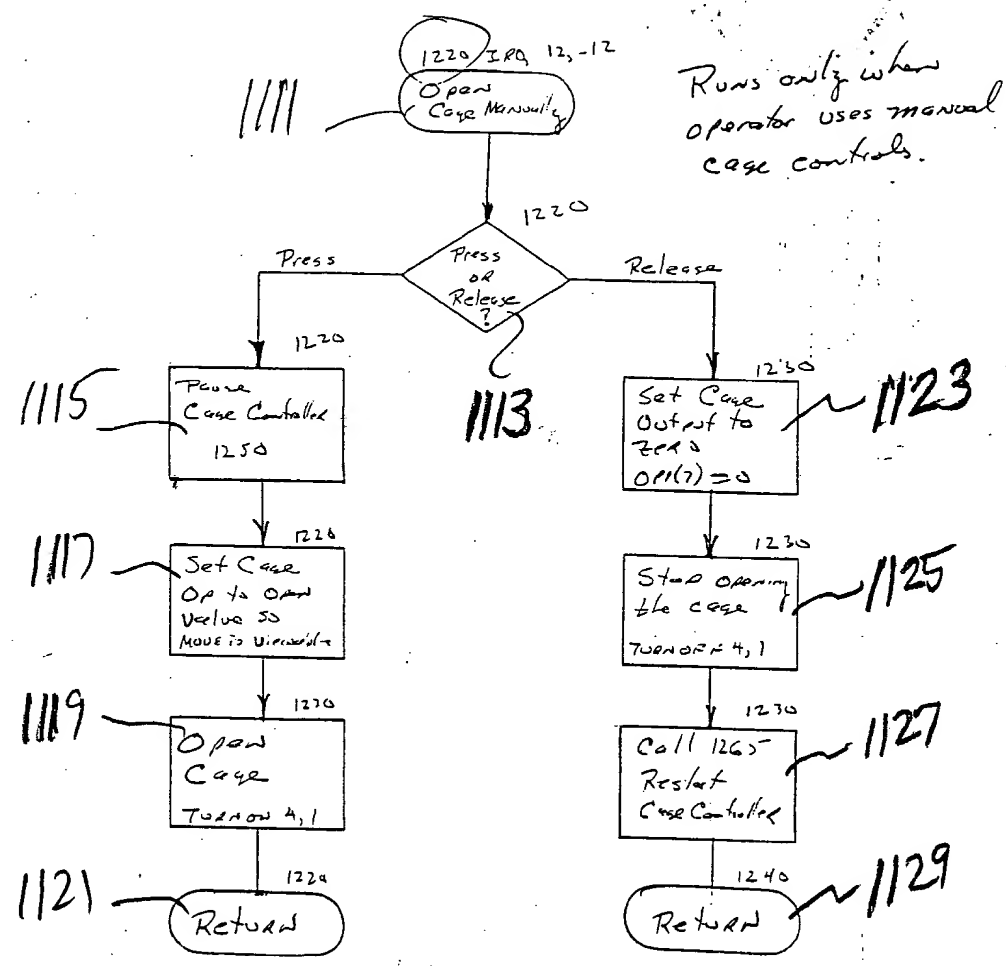

1220 IRQ 12,-12
Open Cage Manually
Runs only when operator uses manual cage controls.
1111
1220
Press or Release ?
Press
Release
1113
1220
Pause Case Controller 1250
1115
1226
Set Case Op to Open Value 50
1117
1220
Open Cage
TURN ON 4,1
1119
1220
Return
1121
1230
Set Case Output to Zero
OPI(7) = 0
1123
1230
Stop opening the cage
TURN OFF 4,1
1125
1230
Call 1265 Restart Case Controller
1127
1240
Return
1129

FIGURE 44G

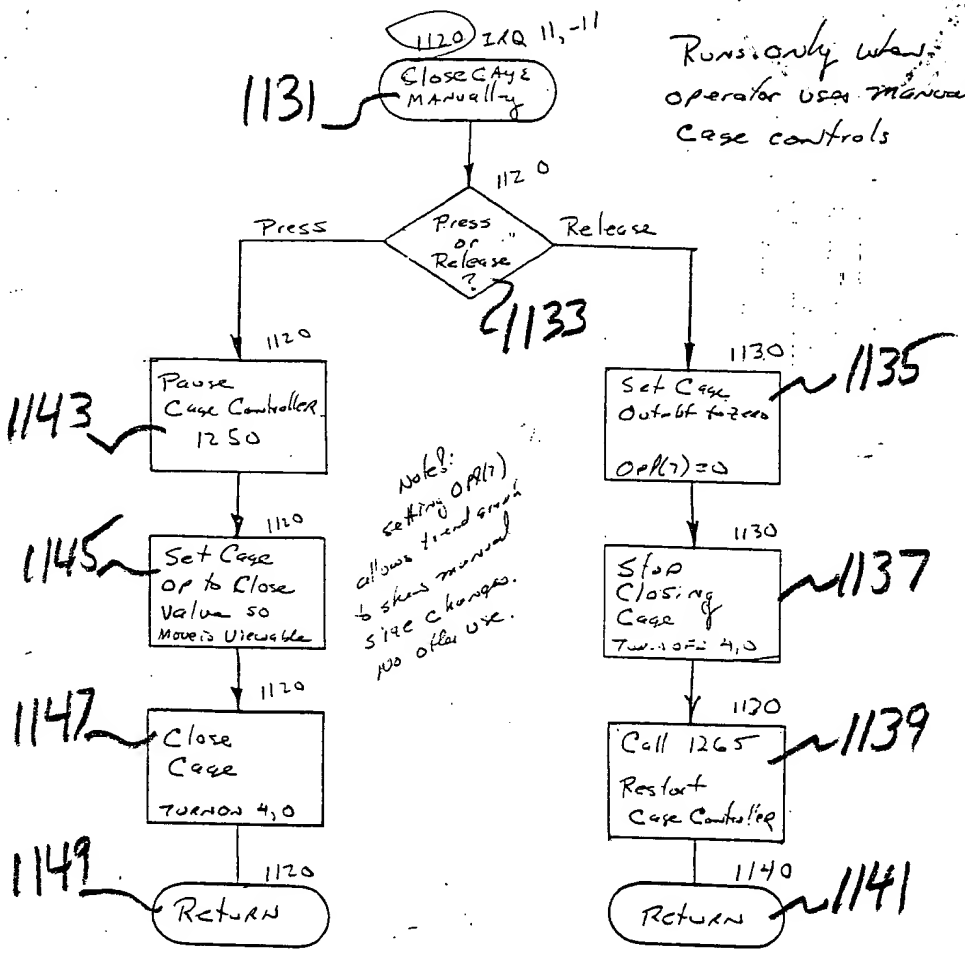

1120 IRQ 11, -11
1131
Close Cage Manually
Runs only when operator uses manual Cage controls
1120
Press or Release ?
1133
Press
Release
1120
1143
Pause Cage Controller 1250
1120
1145
Set Cage or to Close Value so Moves Viewable
1120
1147
Close Cage
TURNON 4,0
1120
1149
RETURN
Note: setting OPR(7) allows trend graph to show manual size changes. No other use.
1130
1135
Set Cage Outputs to zero
OPR(7)=0
1130
1137
Stop Closing Cage
TURNOFF 4,0
1130
1139
Call 1265 Restart Cage Controller
1140
1141
RETURN

FIGURE 44H

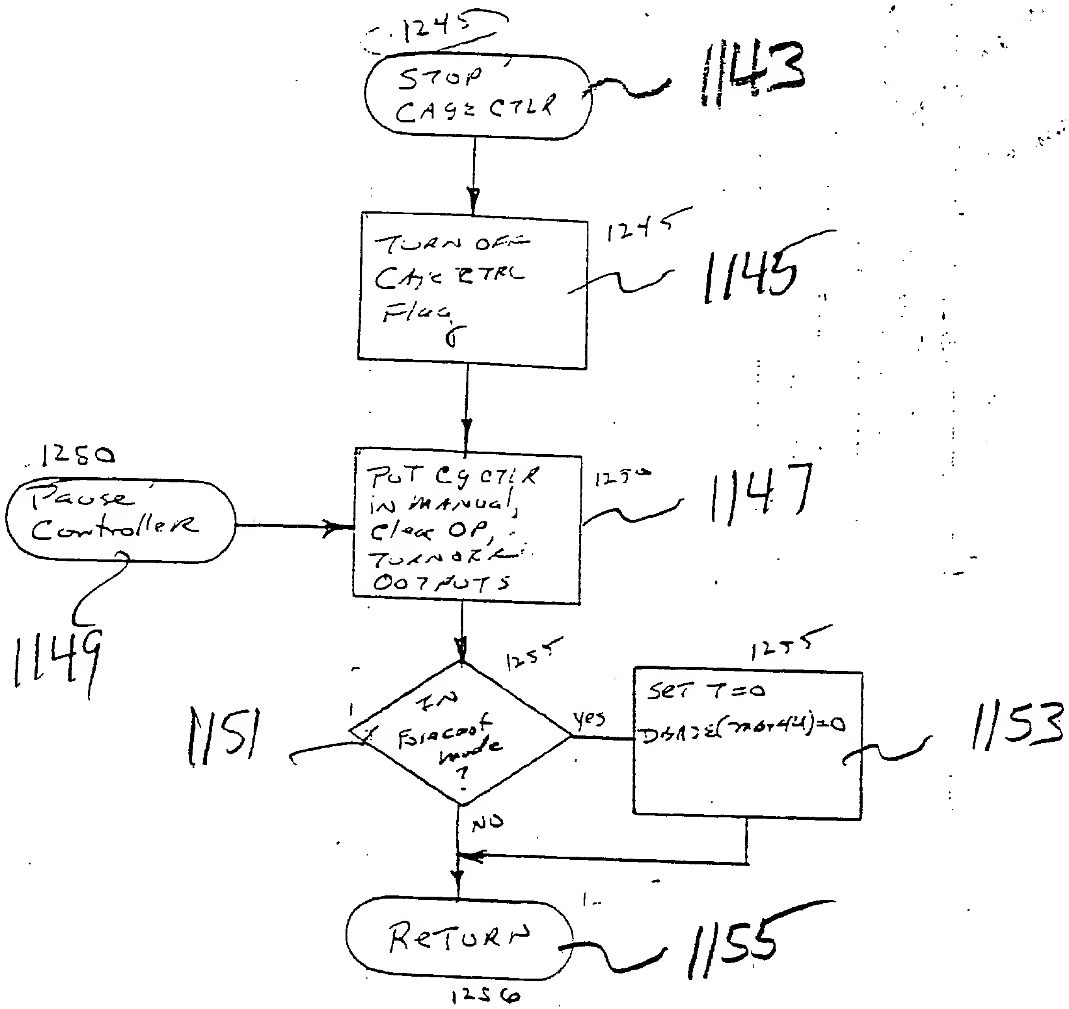


FIGURE 44 I

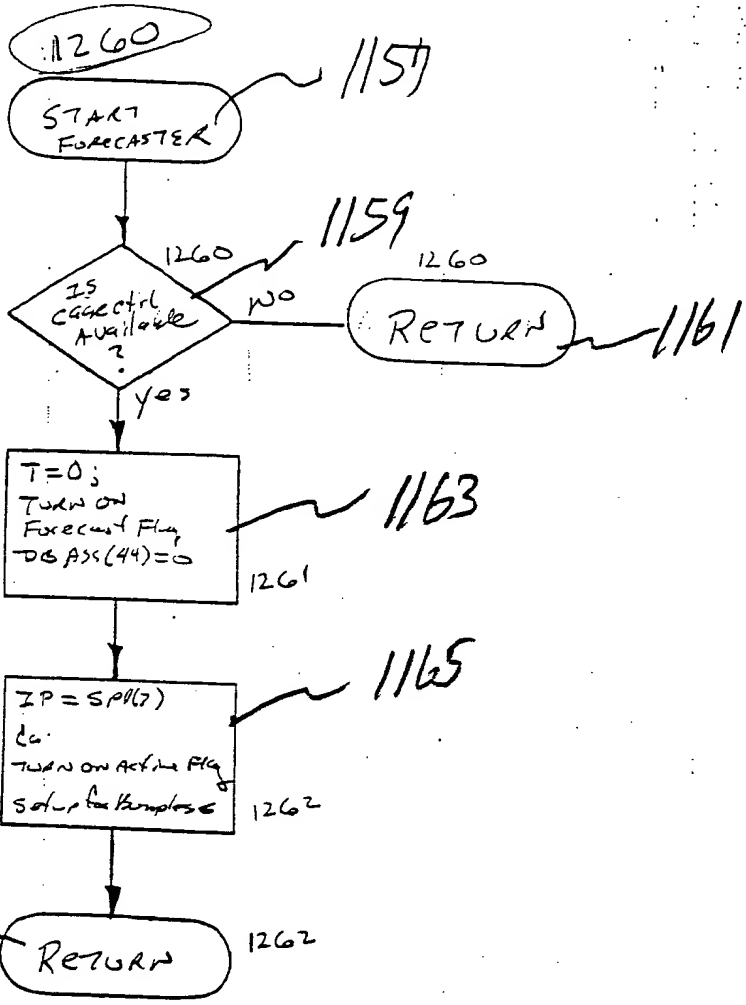

1260
START FORECASTER
1157
1159
1260
IS CGExCtrl AVAILABLE ?
1260
NO
RETURN
1161
YES
T=0;
TURN ON Forecast Flag
DBASS(44)=0
1261
1163
IP = SP(7)
do
TURN ON Active Flag
Setup for Template
1262
1165
1167
RETURN
1262

FIGURE 44J

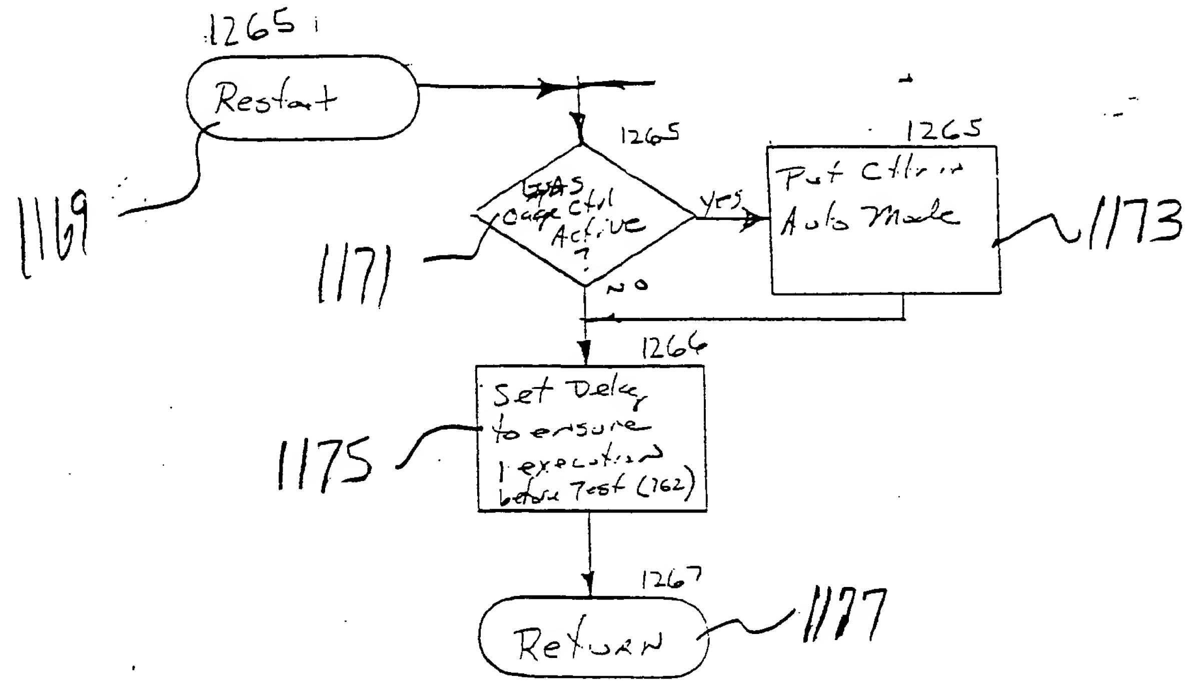


FIGURE 44K

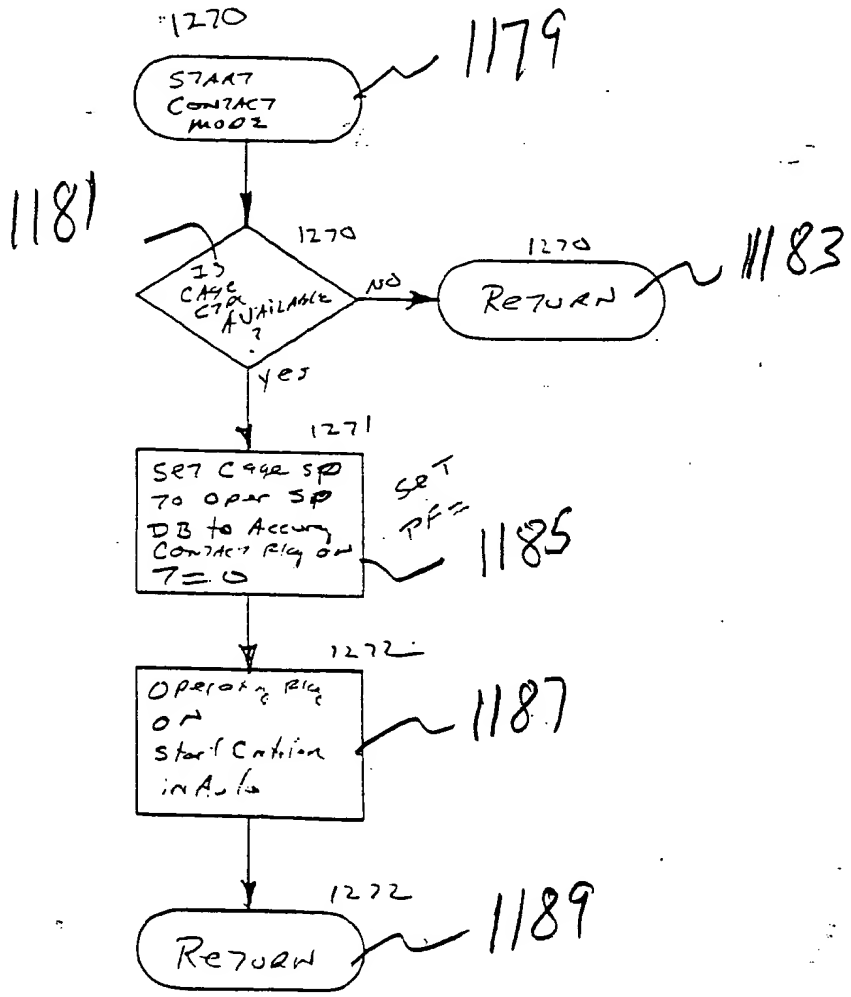

1270
START CONTACT MODE
1179
1181
1270
IS CAGE CTR AVAILABLE ?
NO
1270
RETURN
1183
YES
1271
SET CAGE SPD TO OPER SPD DB to Accum CONTACT Rtg on T=0
SET PF=
1185
1272
Operating Rtg ON Start Contion in Auto
1187
1272
RETURN
1189

FIGURE 44

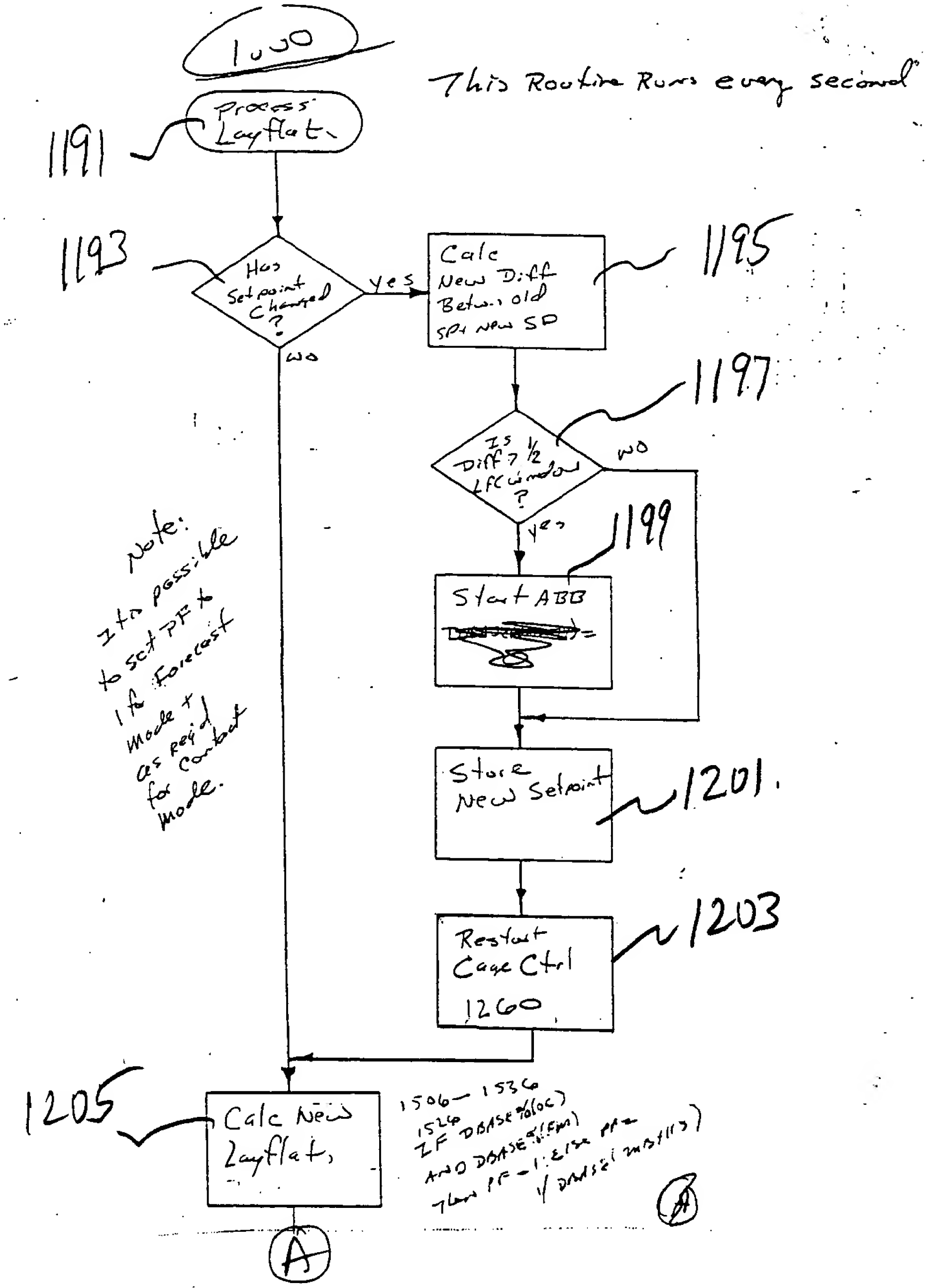

1000
This Routine Runs every second
Process Layflat
1191
1193
Has Setpoint Changed ?
yes
no
Calc New Diff Betw old SP & New SP
1195
1197
Is Diff > 1/2 LFC window ?
no
yes
1199
Start ABB
Store New Setpoint
1201.
Restart Cage Ctrl 1260
1203
1205
Calc New Layflat
A
note: It's possible to set PF to 1 for Forecast mode & as req'd for Contact mode.
1506 — 1536
1526
IF DBASE%(OC)
AND DBASE%(FM)
Then PF = 1: Else PF = 1/ DBASE(?)
A

FIGURE 44 M

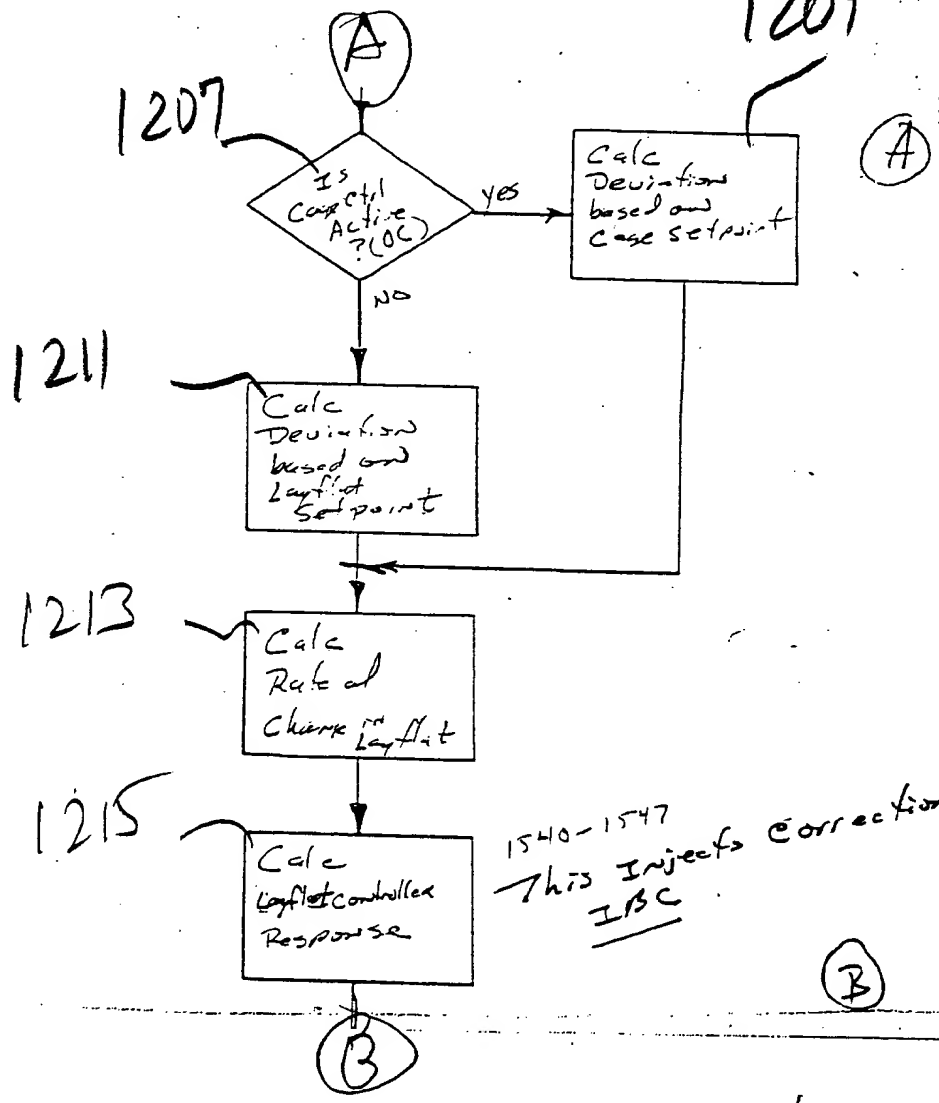

A
1207
Is Coop ctrl Active ? (OC)
yes
no
1209
Calc Deviation based on Case setpoint
A
1211
Calc Deviation based on Layflat Setpoint
1213
Calc Rate of Change in Layflat
1215
Calc Layflat controller Response
1540-1547
This Injects correction signal to IBC
B
B

FIGURE 44N

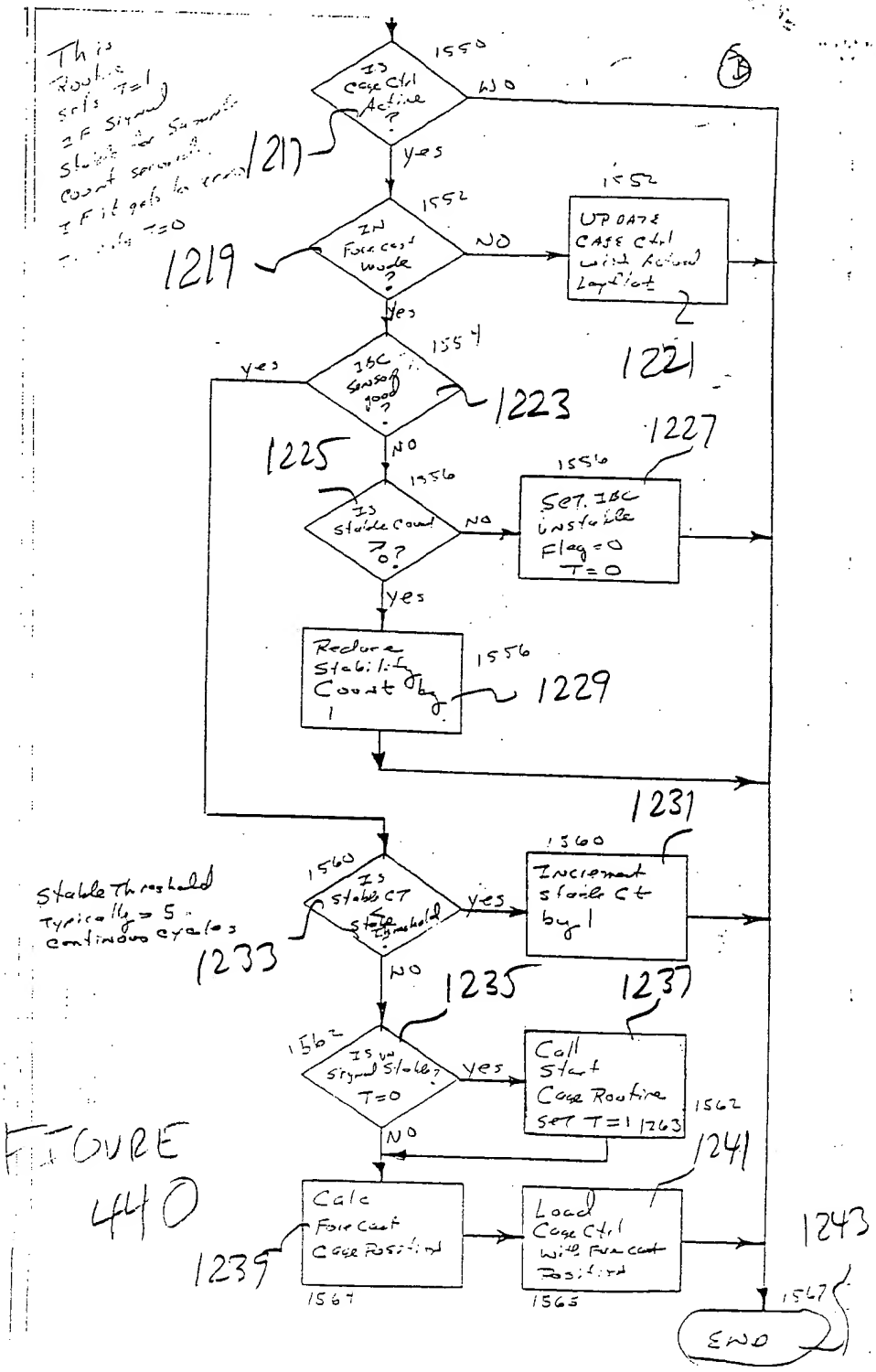

This Routine sets T=1 IF Signal Stable for Sample Count satisfied. IF it gets to reset T=0
1550
Is Cage Ctrl Active ?
NO
yes
1217
1552
IN Forecast Mode ?
NO
1219
1552
UPDATE CAGE Ctrl with Actual Lag Dist
1221
yes
1554
IBC Sensor good ?
1223
yes
1225
NO
1227
1556
Is stable Count > 0 ?
NO
1556
Set IBC Unstable Flag = 0 T = 0
yes
Reduce Stability Count by 1
1556
1229
1231
1560
Is stable CT > Stable Threshold
yes
1560
Increment stable Ct by 1
Stable Threshold Typically = 5 continuous cycles
1233
NO
1235
1237
1562
Is IBC Signal Stable ? T=0
yes
Call Start Cage Routine Set T=1
1263
1562
NO
1241
Calc Forecast Cage Position
1239
1567
Load Cage Ctrl with Forecast Position
1565
1243
1567
END

FIGURE 440

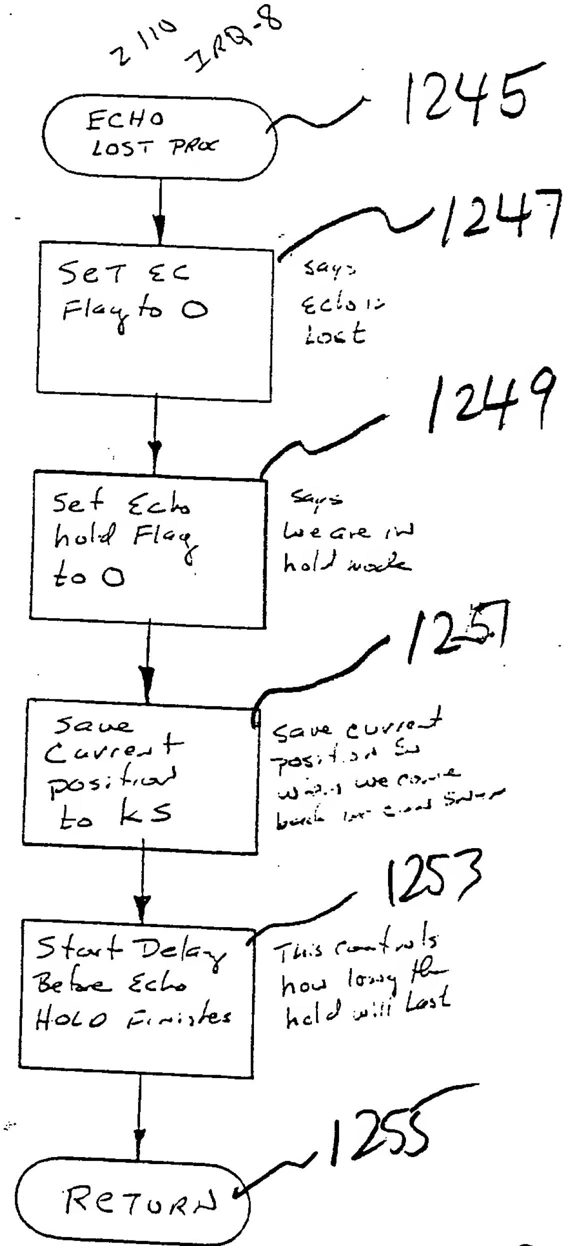


FIGURE 44 P

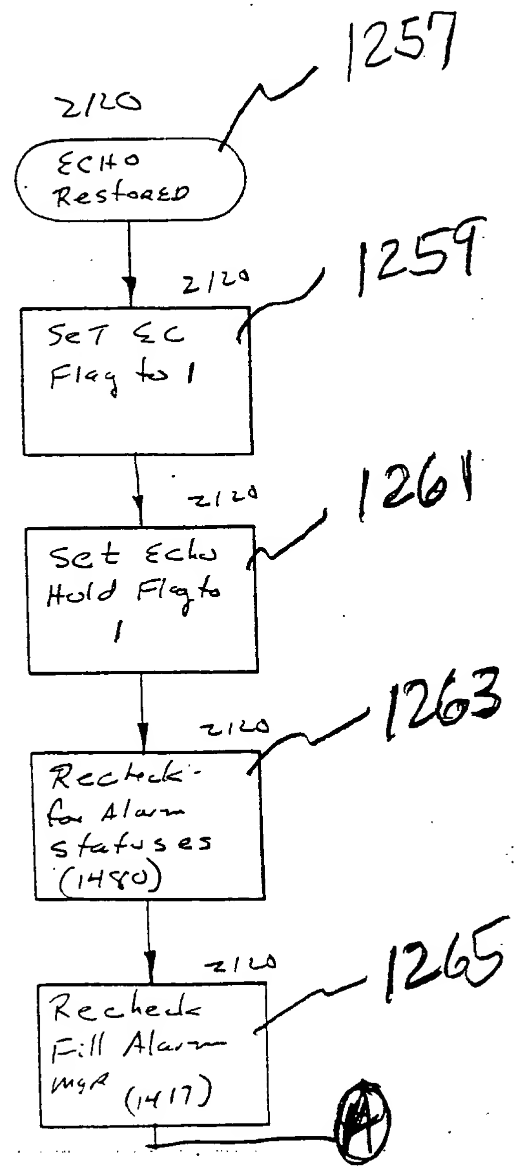

1257
2120
ECHO Restored
1259
2120
Set EC Flag to 1
1261
2120
Set Echo Hold Flag to 1
1263
2120
Recheck for Alarm statuses (1480)
1265
2120
Recheck Fill Alarm MGR (1417)
A

FIGURE 44Q

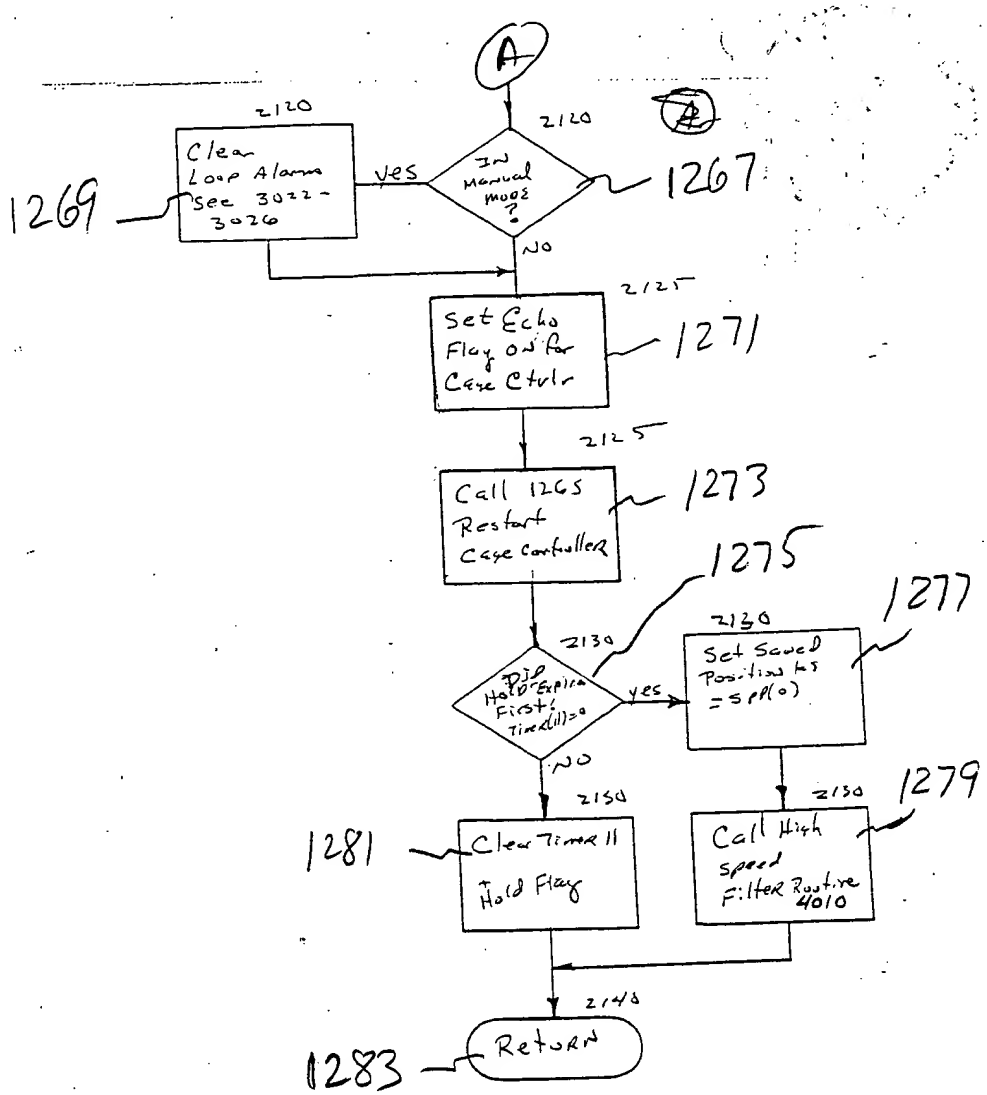

A
A
2120
Clear Loop Alarms See 3022-3026
1269
yes
2120
In Manual mode ?
1267
NO
2125
Set Echo Flag on for Case Ctrlr
1271
2125
Call 1265 Restart Case Controller
1273
1275
2130
Did Hold Expire First Time(11)=0
yes
1277
2130
Set Saved Position to = SP(0)
NO
2150
Clear Timer 11 Hold Flag
1281
2130
Call High speed Filter Routine 4010
1279
2140
Return
1283

FIGURE 44R

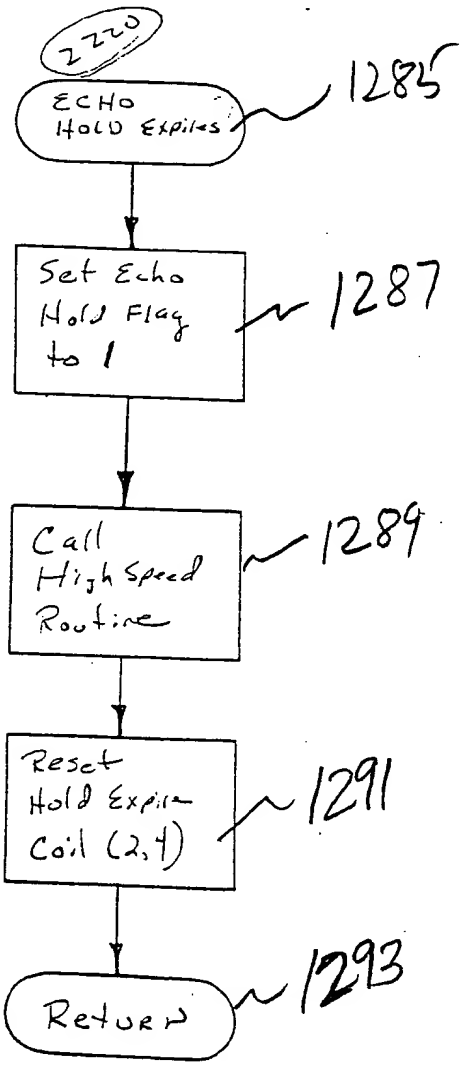

1220
ECHO Hold Expires
1285
Set Echo Hold Flag to 1
1287
Call High Speed Routine
1289
Reset Hold Expire Coil (2,4)
1291
Return
1293

FIGURE 44S

Called By

2120

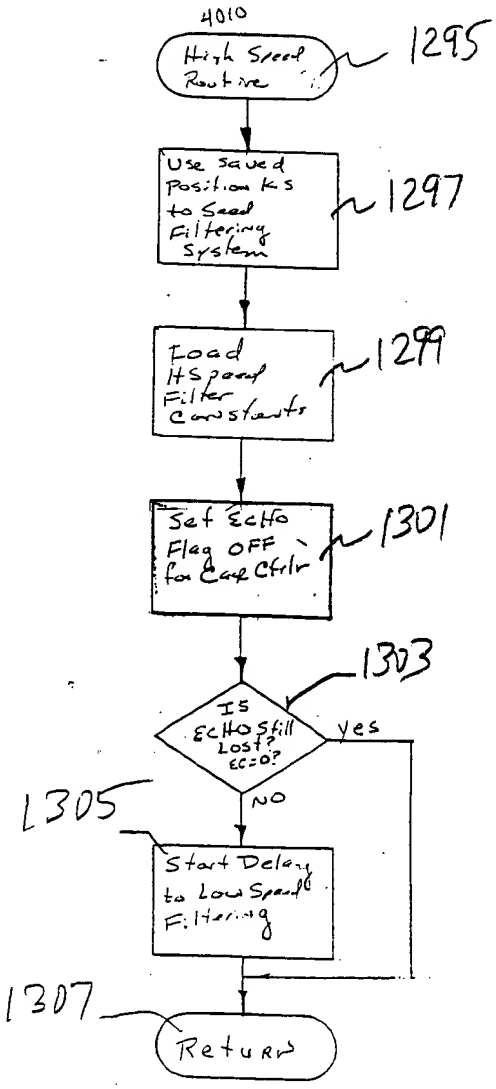


FIGURE 44 T

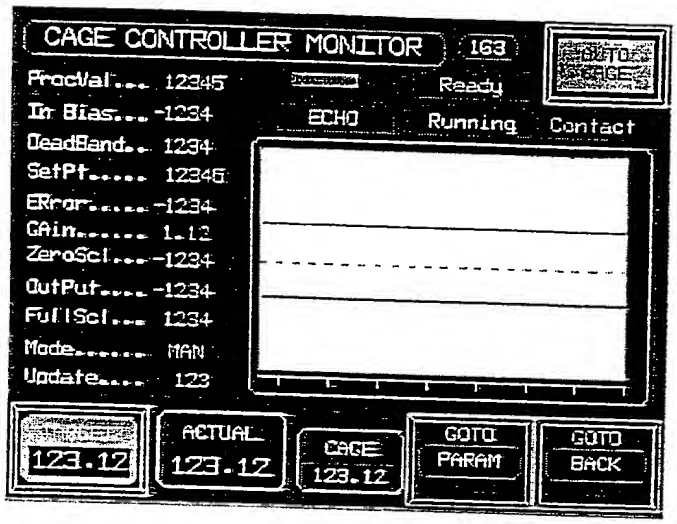

CAGE CONTROLLER MONITOR
163
ProcVal.... 12345
In Bias.... -1234
DeadBand.. 1234
SetPt..... 12346
ERror..... -1234
GAin..... 1.12
ZeroScl.... -1234
OutPut.... -1234
FullScl.... 1234
Mode..... MAN
Update.... 123
Ready
ECHO
Running
Contact
123.12
ACTUAL
123.12
CAGE
123.12
GOTO
PARAM
GOTO
BACK

FIGURE 45

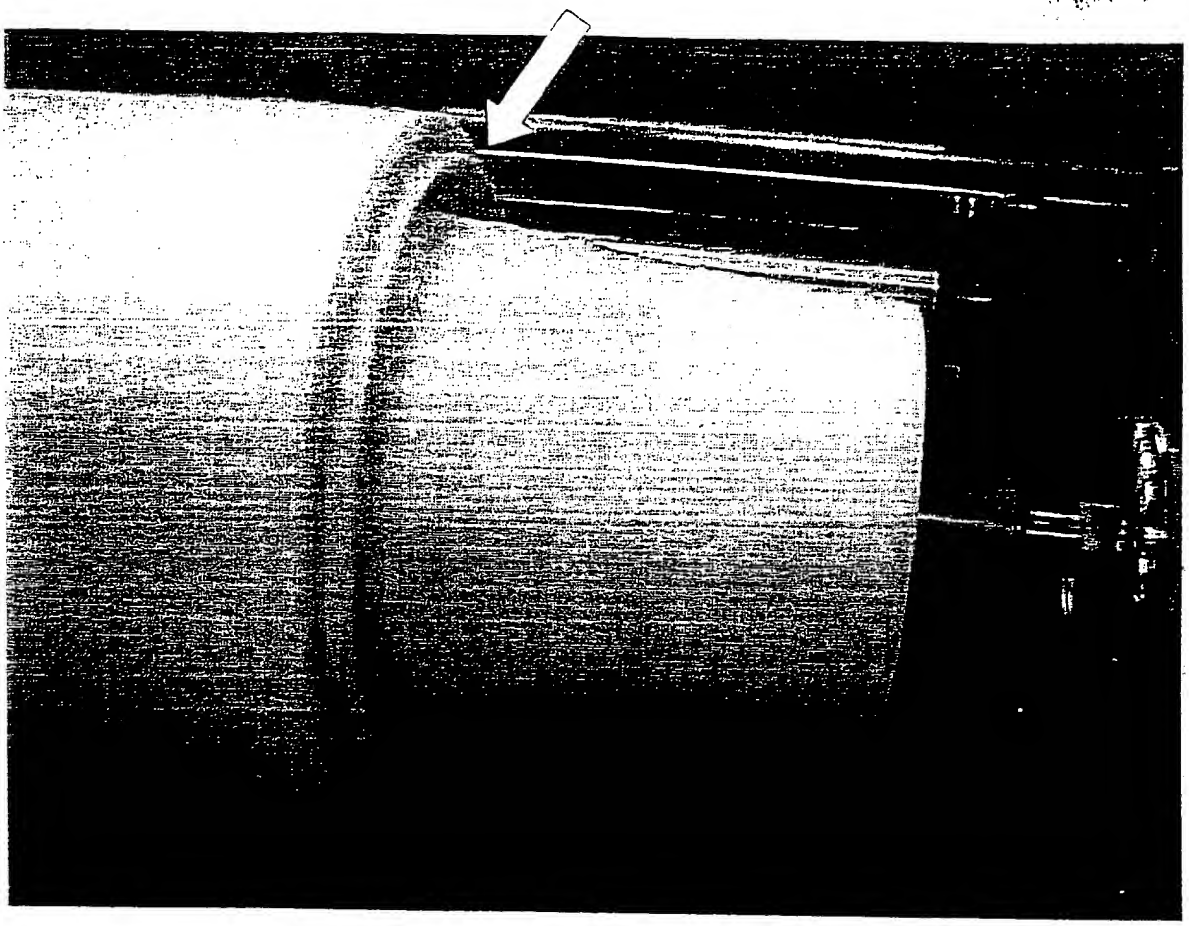


FIGURE 46

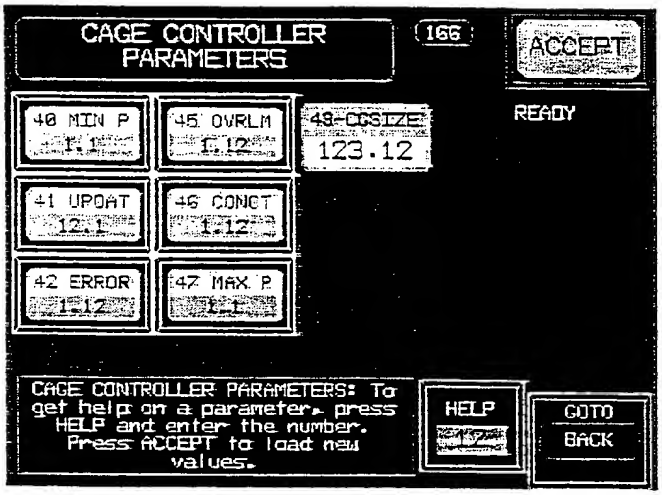

CAGE CONTROLLER PARAMETERS
166
ACCEPT
READY
40 MIN P
1.1
45 OVRLM
1.12
49-CCSIZE
123.12
41 UPDAT
12.1
46 CONCT
1.12
42 ERROR
1.12
47 MAX P
1.1
CAGE CONTROLLER PARAMETERS: To get help on a parameter, press HELP and enter the number. Press ACCEPT to load new values.
HELP
GOTO
BACK

FIGURE 47

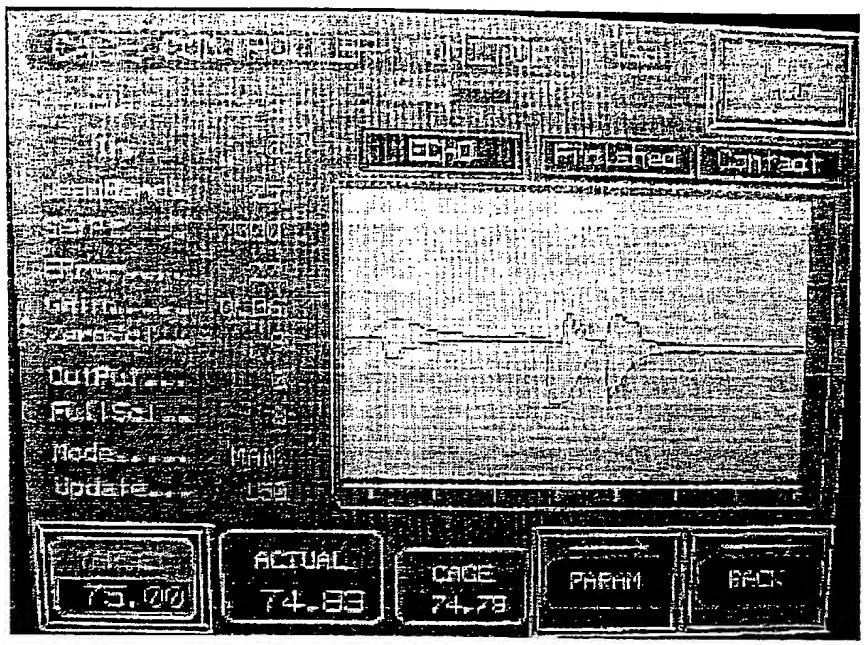


FIGURE 48

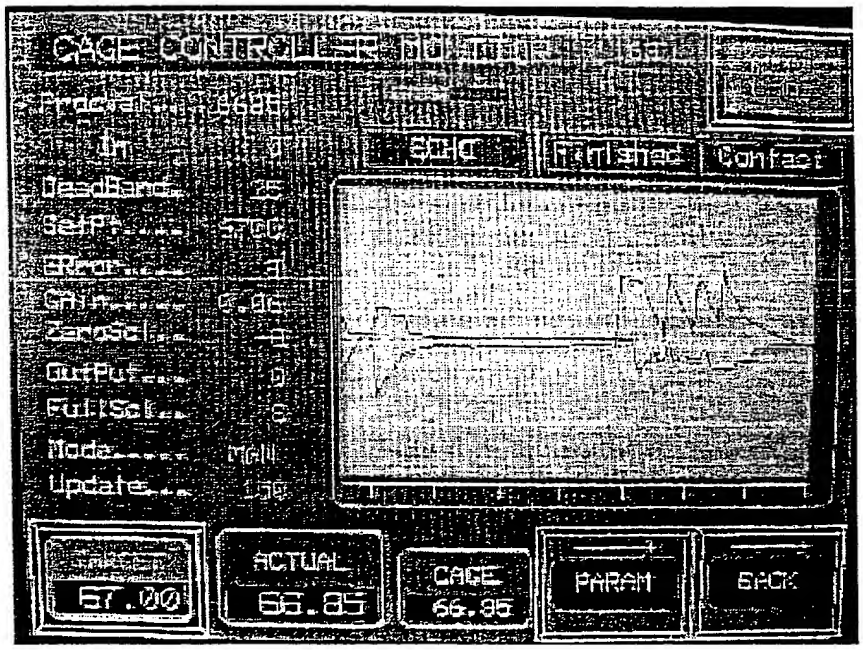

CAGE CONTROLLER
Setup
Finishes
Contact
DeadBand
SetPt
Error
Gain
ZeroScl
OutPut
FullScl
Mode
Update
ACTUAL
66.85
CAGE
66.85
PARAM
BACK

FIGURE 49

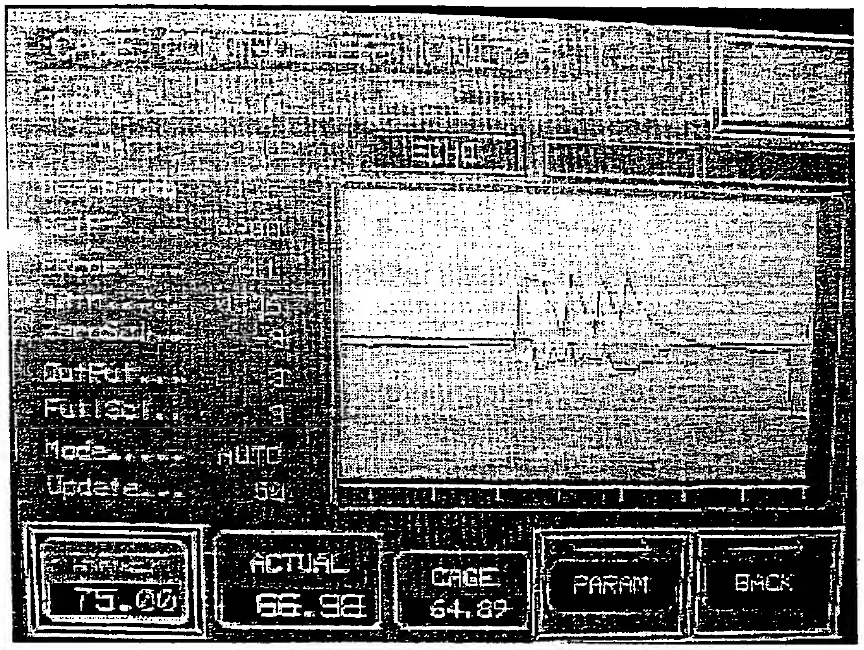


FIGURE 50

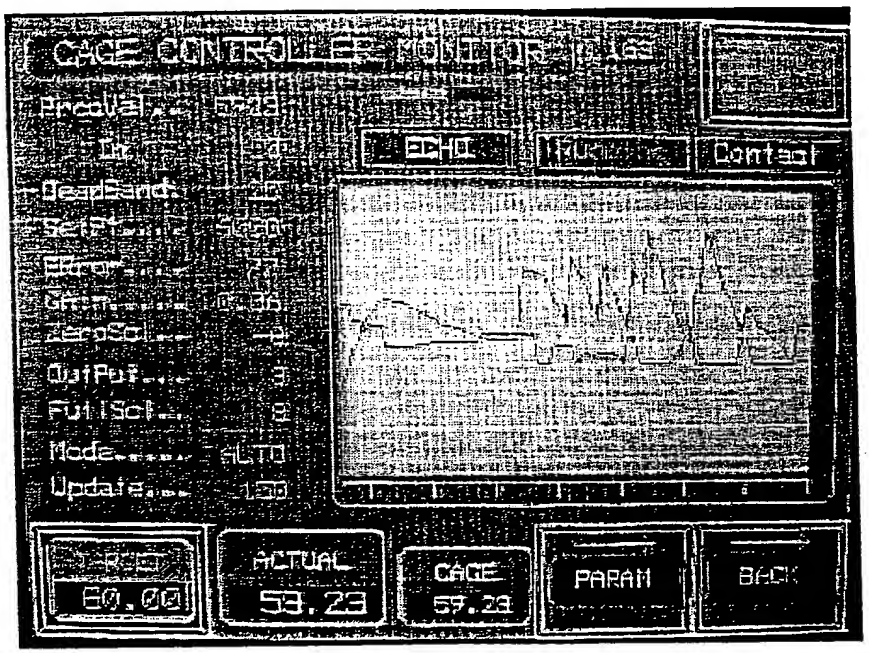

CAGE CONTROLLER MONITOR
ECHO
Contact
BandBand:
Error
Output
FullScl
Mode
AUTO
Update
ACTUAL
53.23
CAGE
59.23
PARAM
BACK

FIGURE 51

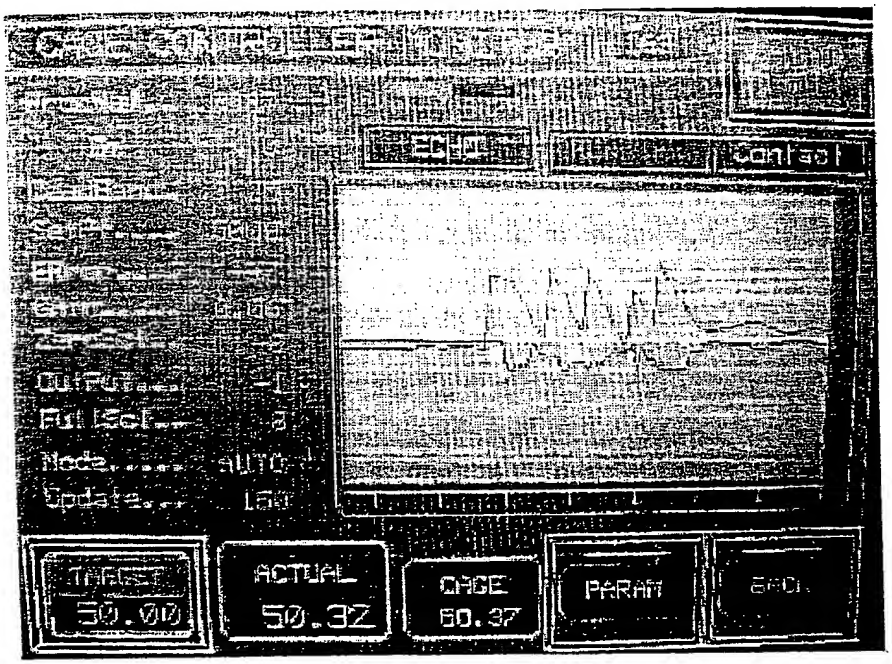

Contact
Mode..... AUTO
Update... 1Sec
TARGET
50.00
ACTUAL
50.32
GAGE
60.37
PARAM

FIGURE 52

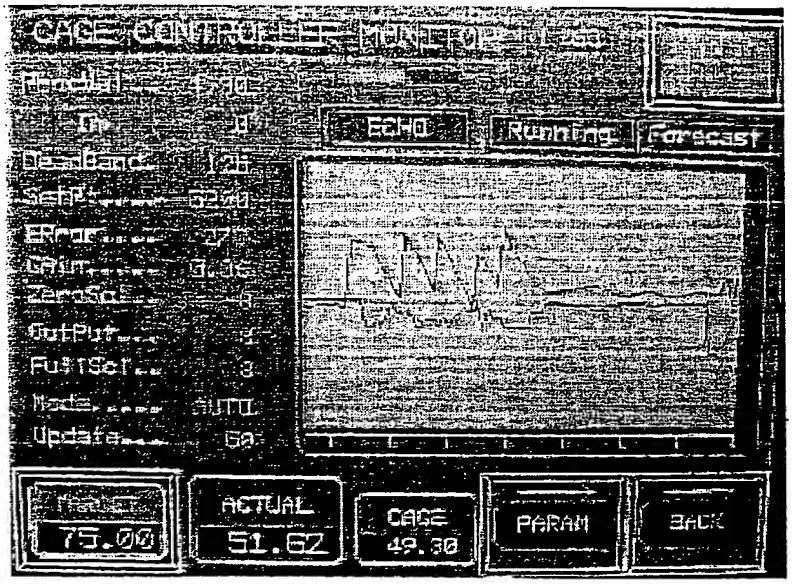


FIGURE 53